

**AC
EXCLUSIVE!** ESCOM Speaks: The Amiga's Future and more!

Amazing COMPUTING™ / For The Commodore AMIGA®

Your Original AMIGA® Monthly Resource

Volume 10 No. 6 June 1995
US \$3.95 Canada \$4.95

Creating Nebulas with LightWave 3D

- DPaint V
- VLab Motion:
Tips and Tricks

Game Reviews:

- BloodNet
- All Terrain Racing

and more!



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Functions

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Macros/ARexx

- macro language with more than 120 instructions including conditional branching, loop constructions, user requests and embedding of external routines
- ARExx port with mutual ARExx and macro instructions
- automatic macro recording and tracing mode for easier routine debugging
- free menu definition

Printout

- output in built-in printer font (draft mode) or as freely scalable graphic with all enhanced formatings like font style, frames, cell grid etc... (requires OS2.0 or higher)

Database

- integrated database with numerous data definition and retrieval options: search, copy and delete operations according to user defined criteria

Control Options

- full mouse or keyboard control
- toolbar with icon shortcuts
- completely english version including 200 page manual

Technical Characteristics

- sheet size limited only by available memory
- no restrictions in sheet or window quantity
- import of foreign formats supported (MS Excel, Professional Calc, CSV/ASCII format)
- OS/2.0 user interface look and feel
- freely adjustable screen mode and font selection
- all new screen modes of OS/2.0 supported
- fast, due to being written 100% in assembler code

Required Hardware

- Commodore Amiga
- Kickstart 1.2/1.3, 2.0, 2.1, 3.0, 3.1
- 512Kb main memory (1Mb or more recommended)
- supports all common printers

GURU-ROM V6

Guru-ROM Version 6

The final update for all GVP SCSI host adapters!

Years of experience, technical know-how, and competence from the world's best Amiga software and hardware engineers are condensed in this penultimate product. It makes it possible for the user to productively and comfortably use SCSI, without sacrificing performance, risk of incompatibility, or waste of resources. Together with exhaustive documentation, the »Guru-ROM« enhances each Series-II host adapter in many decisive and for the serious user essential features:

Universal: a SCSI driver without compromise for all Series-II host adapters and all «Combo» and «G-Force» accelerator cards for the Amiga 4000, 3000, 2000, 1200, and 500. This ROM module, which has been considerably extended in its code and feature set, replaces all previously distributed driver ROMs.

Fast: unparallelized transfer rates of up to 3.5 MB/s raw (Zorro-II limit), 3.1 MB/s measured with «SCSI Speed».

2.4 MB/s measured with »DiskSpeed« - even on a stock 7-MHz 68000-based Amiga! All the while, the CPU typically retains 80% free processing time. Always maximum performance through the automatic selection of the currently optimal transfer mode (DMA, buffered DMA, PIO).

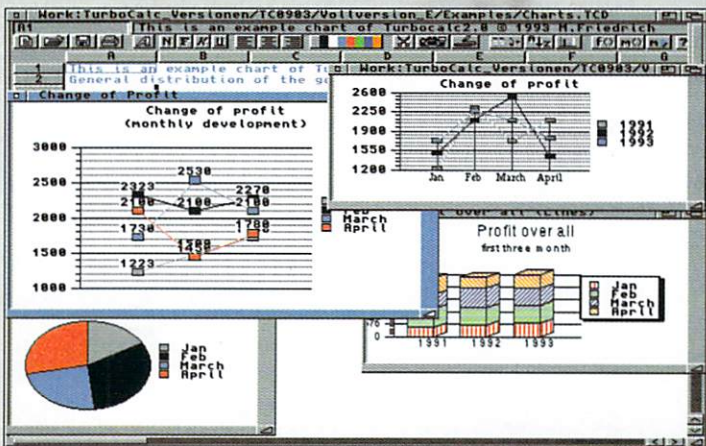
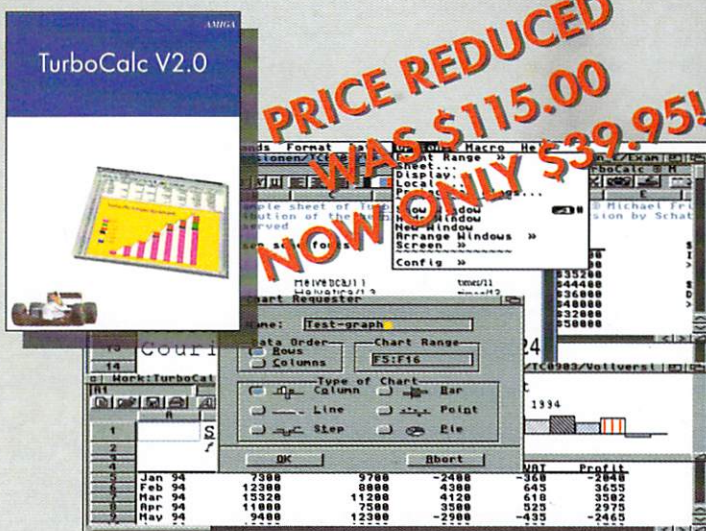
Multifaceted: supports all device types defined in the SCSI standard, such as hard disks, CD-ROM drives, streamers, scanners, and magneto-optical devices.

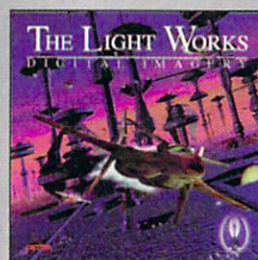
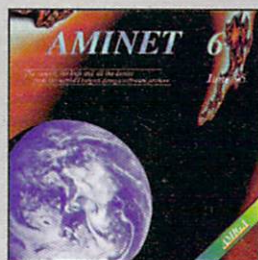
Compatible: complete support for the RDB standard resulting in trouble-free autoboot, automount, and the exchange of devices and media between two computers from Amiga OS 1.3 through 3.1.

Flexible: disconnect/reselect, synchronous transfers, and parity checking can be enabled separately for each device (even for devices without an RDB). Also complete write-protection (useful for kiosk applications and for virus protection) is possible.

Intelligent: maximum compatibility with nearly all hardware and software through special handling of all known firmware bugs of the most popular SCSI devices and DMA hardware bugs in the A3000 and A4000, workarounds for internal errors in the WD SCSI chip, as well as special modifications to account for defective application software.

Upward-compatible: completely compatible both to the SCSI-2 as well as to the SCSI-1 standard, thereby providing the broadest support for all devices on the market including those still to come.





The Light Works

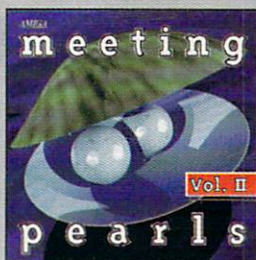
Raytracing is a fascinating area of computer graphics. Pictures from the computer, perfectly rendered, fascinate people all over the world. The Amiga was the first computer to be used for raytracing, and today it is still a leader, with many high quality programs. A real artist of raytracing is Tobias J. Richter from Cologne Germany, whose detailed objects stun people, especially his space ships of famous science fiction films which are used to demonstrate the capabilities of raytracing programs. Now available on CD-ROM for the first time as a complete collection, his objects are highly detailed and extremely realistic due to the application of complex surface textures of the models. Until now it was difficult to acquire these objects in order to create your own scenes or animations.

The Light Works: \$57.95

FreshFonts II

FreshFonts volume 2 contains 632 megabytes of fonts for almost any computer system. Most of the fonts are freely distributable, except for the Thien fonts, which are exclusive on this CD. Each of these fonts is included in four different formats: DMF, Agfa IntellFont, Adobe and TrueType. There are 231 font families on this CD (each containing up to 8 different styles). They are classified in seven categories: Deco (63 families), NonLatin (33 families), Pictures (16 families), Sans Serif (29 families), Script (36 families), Serif (36 families), and Thien (19 families).

FreshFonts Vol 2: \$29.95



Meeting Pearls

Meeting Pearls volume 1 contains about 150 high quality and high resolution fractals, a ready to run version of PostTeX which includes fonts for FAX and 600 dpi printers, a ready to install version of the Amiga NetBSD port, and many other ready to run applications including UMS, DaggeX, a lot of utilities, games, etc.

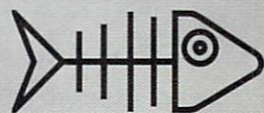
Meeting Pearls volume 2 contains 650 Mb of the finest freely distributable software and has a special user interface which has been created to allow you to find the program of your choice with ease. The contents include 35 Mb of selected HTML pages; 50 Mb graphics programs and data; 15 Mb games; 10 Mb from "The Party '94"; 13 Mb disk, hard disk, CD-ROM and SCSI tools; 19 Mb various other tools; 11 Mb educational software; 25 Mb terminal programs; 25 Mb animations, mainly from Eric Schwarz; 40 Mb developer tools (e.g. pre-installed DICE, Oberon, & Modula compilers, Commodore Includes, GUI-Tools); 9 Mb music programs; 10 Mb midi programs; 27 Mb pictures; 60 Mb texts, FAQs, CD contents files, etc.; 40 Mb linux for Amiga; 100 Mb TeX installation (PostTeX incl. 600 dpi and fax fonts); 38 Mb movie data base; 50 Mb archives for Fiction; 18 Mb modules; 50 Mb NetBSD for Amiga. Because the version of NetBSD included on Meeting Pearls CD's includes encryption code that is restricted for U.S. export, all imported CD's will only be available for resale within the U.S.

Meeting Pearls Vol. 1: \$13.95

Meeting Pearls Vol. 2: \$13.95

All products are available in your local Amiga shop or through national mail-order companies

North American distributor:



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610 North Alma School Road - Suite 18
Chandler, Arizona 85224-3687 USA
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Voice only: (800)804-0833
Email: info@amigalib.com

European distributor:



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Aminet

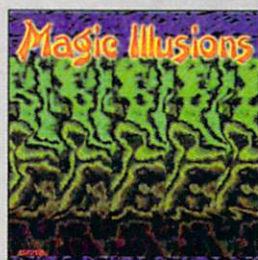
Aminet is the world's largest collection of freely distributable Amiga software. Up to 10,000 users access the vast archives every day and countless programmers publish directly via Aminet. A vast variety of programs is included: applications, games, demos, pictures, mods, animations, developer material, networking software, programming languages, and more. Until recently, access to Aminet was restricted to international network users. Only 3 years after its inception, Aminet now holds the equivalent of more than 4,500 floppy disks of software. User friendly access software makes the aminet CD's a pleasure to use.

Aminet Set 1, the first "complete" Aminet archive on CD, consists of approximately 4 gigabytes of software in 12,500 archives. This 4-CD set, which is dated January 1995, offers an almost inexhaustible reservoir of top value shareware. There are also quarterly releases of selected portions of the aminet files. Aminet Volume 6, dated June 1995, consists of approximately 1.1 gigabytes of software in 3,800 archives. Volume 6 has a special focus on demos, more than 1800 demos from Aminet were included. One year subscriptions to the Aminet series are available. There are expected to be four releases per year, so the subscription is actually for 4 CD's, regardless of when they end up shipping.

Aminet Set: \$43.95

Aminet Quarterly: \$19.95

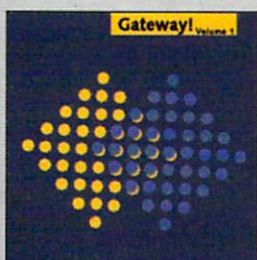
Aminet Quarterly - 1 year subscription: \$59.95



Magic Illusions

This CD brings a new interesting form of entertainment to your screen - 3D Stereograms! Without special aids a colorful, fantastic, three dimensional object appears suddenly on a two dimensional strongly patterned picture. Via books, the illusion of depth has already stunned millions of people around the world. Now you can view the stereograms at home on your screen! Everything you need is on this CD. Besides 200 stereograms with varying difficulty, there is software included which enables you to create your own 3D pictures.

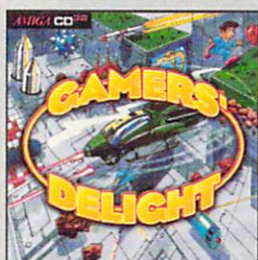
Magic Illusions: \$19.95



Gateway!

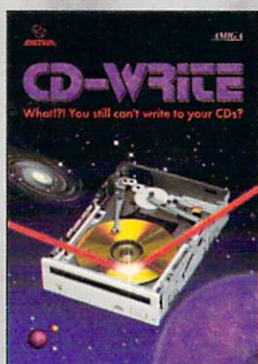
Gateway! offers NetBSD 1.0, a full featured UNIX-like operating system with both sources and binaries for the Amiga, i386, Sun 3, and other architectures. Go networking with the large selection of supplied networking tools. Other supplied packages include a binary release of the X window system (X11R6) for the Amiga, with many additional clients, and packages such as perl, emacs, games, mail programs, and many megabytes of important text files such as RFCs and FAQs. A complete installation guide is available on the CD. There are also some AmigaDOS internet utilities, such as clients for AmiTCP and Envoy.

Gateway!: \$22.95



Gamers' Delight

Gamers' Delight contains more than 40 games in various categories, including Action, Jump & Run, Card Games, Puzzles and Strategy. A whole range of computer entertainment awaits! Gamers' Delight will hold you captivated for hours and guarantees long lasting pleasure. All games are full commercial versions, no public-domain & no demos. This CD can be run on any Amiga with a CD-ROM drive, the CDTV, or on an Amiga CD 32 console with 1 MB free memory and joystick/joypad. Gamers' Delight: \$43.95



CD-Write

CD-Write is based on a simple but ingenious technique. Because you cannot write on ordinary CD's using ordinary CD-ROM drives, CD-Write extends the Amiga OS in a fully OS compliant and completely transparent manner, to redirect modifications to CD's to a special area of your harddrive or other writable media. From now on you will be able to treat CD-ROMs like any other media, writing or deleting files, moving and snapshotting windows and icons, changing the icon tooltip fields, replacing icons with your favorite ones, rearranging directories, changing the default configurations of programs run directly from the CD-ROM, saving game high scores, etc. Minimum system requirements: Amiga 500, A600, A1000, A1200, A1500, A2000, A2500, A3000, or A4000 with at least 1 MB of RAM, OS 2.04 or higher, CD-ROM drive, hard disk recommended.

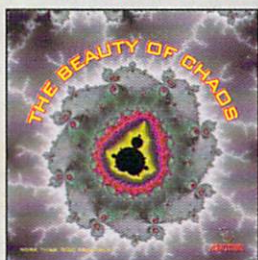
CD-Write: \$57.95



CDBoot 1.0

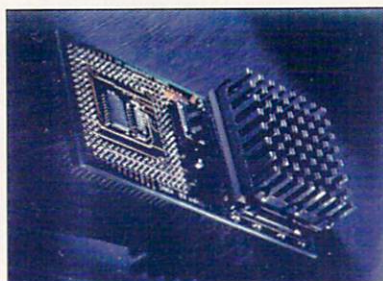
CDBoot is a fantastic new product that enables you to use almost any CD 32 game on an A1200 or A4000 with CD-ROM drive and any filesystem. You can create a configuration file for each CD, containing information about the Joypad emulation. You can also save the highscore of each CD32 game. Use and installation of CDBoot is very easy, even for beginners, due to the excellent manual. Since compatibility is very high, you can use 98% of CD32 games currently available. CD-Boot is an excellent software solution for all Amiga enthusiasts who would like to enter the world of CD32 games.

CDBoot 1.0: \$49.95



The Beauty of Chaos

Dive into the fantastic world of fractal geometry and make a safe journey through the depths of the mandelbrot set. This CD includes 507 mandelbrot pictures in GIF format (256 colors) in various resolutions (1140x890, 1024x768, 640x480), 20 selected true color pictures in TIF format and graphic viewers for PC, Amiga and Macintosh. Beauty of Chaos: \$22.95



A4000 50MHz 68040 Accelerator, p.6



Is DPaint V worth the wait?, p.20



VLab Motion Tips & Tricks, p.26



BloodNet Vampires in the year 2094, p.42

6 NEW PRODUCTS and other neat stuff

Help Wanted Service for Graphic Artists and Animators, Accelerators for the A4000/40 and the A2000, and more!

10 Creating Nebulas With LightWave 3D

by William Frawley

Unlock some of the greatness of LightWave by recreating those awe-inspiring background nebulas often seen surrounding Babylon 5.

20 DPaint V

by R. Shamms Mortier

Is this much awaited upgrade to Electronic Arts' major contribution to the Amiga for everyone?

24 Connect with ENLAN-DFS 2.0

Reviewed by Shamms Mortier

Network your Amigas for maximum performance and full Amiga productivity.

26 VLab Motion: Tips and Tricks

By Douglas J. Nakakihara

Use VLab Motion's editing software package, MovieShop, and ARexx to ease your animation tasks and more.

34 Revitalizing the X-Specs 3D Stereoscopic Glasses

By Randy Finch

Program your software to use the XSpecs.library and create 3D viewing on your Amiga.



Cover Art by
William Frawley

AC Exclusive

ESCOM Interview 48

Manfred Shmitt of ESCOM AG speaks directly on the future of the Amiga, ESCOM's plans and more.

GAMES

42 BloodNet

By Rob Hays

The Night is special, don't be caught just hanging around. Journey through the streets of Manhattan and Cyberspace in 2094

44 ATR

All Terrain Racing

By Jason D'Aprile

Team 17's ATR is an overhead, small sprite racer with a sci-fi bent.

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EDITORIAL CONTENT

ESCOM Speaks, We Listen

ESCOM AG Takes Charge

On page 48 of this issue, Manfred Schmitt, founder and principal shareholder in ESCOM AG, is interviewed. As far as I know, this is the first North American interview that has seen print from Mr. Schmitt and it is extremely important. Up until now, ESCOM had kept their thoughts and plans to themselves. As Mr. Schmitt puts it in his interview, "We have never talked in the past without knowing things, so if I tell you something then we will do it. We did not talk in the past until everything was done..." In short, while we have not heard from ESCOM, what we have heard has been greatly under estimated.

Prior to the Auction in April, we were told by several sources that ESCOM's initial and only interest was in the Commodore trademark. This appears to be true. However, while pursuing the one goal, ESCOM apparently saw the potential of the Amiga. Mr. Schmitt discusses TV set-top boxes as well as other markets for Amiga technology. ESCOM has already announced one such licensing deal with VisCorp in the United States.

While I will not go into the entire interview, I will tell you that Mr. Schmitt is still considering his options in the North American market and he has not yet announced what ESCOM's plans are for the future Amigas. However, he was very emphatic that there would be future Amigas. Current Amiga models should be available by September-October and ESCOM has already made commitments to deliver quite a few units.

Out Of Sight, Out of Mind

While I appreciate ESCOM's reluctance to make announcements concerning the Amiga before they had purchased the rights, the lack of information concerning ESCOM once they had won the Auction has left many Amiga users and vendors up in the air. Many people have continued a wait-and-see attitude. Some have even suspended activities or scaled back their efforts until they have something definitive.

Unfortunately as each vendor pulls back a little, each Amiga user and Amiga vendor becomes more skeptical of the market and also pulls back. This condition has confronted the Amiga market for over a year (many people believe that the condition started long

before Commodore's liquidation announcement) and, I hope has hit its lowest point.

The effect of this scale back can be seen in the issue you are reading. The combined forces of suspected slower Summer sales and the lack of definitive announced plans, produced less advertising for this issue. This forced us to provide a smaller, 48-page issue. We compensated by dropping several in-house ads and by combining or condensing our own material (I am sharing space with the masthead, while the table of contents was moved from two pages to one). In addition, several of the articles for this month are longer than usual. All of this means we have a tighter issue than we had planned.

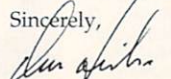
May 30th Announcement

However, all of this should be over shortly. ESCOM has called a press conference for May 30th in Germany. The results of this meeting will be published in the July issue of *Amazing Computing*. I have been invited and I will attend. No, this isn't a great way to see Europe. Unfortunately, I will only be there for two days and then I return.

However, it is a great opportunity for the Amiga. ESCOM has invited journalists from around the world to hear their plans and strategies. There will be a German conference in the morning and an English conference in the afternoon. ESCOM is taking no chances. They are covering the entire market.

What will this mean? It means that ESCOM understands that their investment needs to be nurtured with information. It means that they have decided to make as big a splash as they can in the marketplace and promote the Amiga.

What does this mean for the Amiga in North America. I don't know yet. But, the reason I am going is to lobby for as much product, research and development, and marketing support as we can get for the North American market. We cannot allow the poor decisions of the previous Commodore management to influence the new owners. ESCOM knows and understands the Amiga market in Europe. Now it is important to show them the potential on this side of the Atlantic

Sincerely,

Don Hicks
Managing Editor

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Amazing Computing For The Commodore Amiga™ (ISSN 1053-4547) is published monthly by PIM Publications, Inc., Curran Road, P.O. Box 2140, Fall River, MA 02722-2140, Phone 1-508-678-4200, 1-800-345-3360, and FAX 1-508-675-6002.

U.S. subscription rate is \$29.95 for 12 issues. Subscriptions outside the U.S. are as follows: Canada & Mexico \$38.95 (U.S. funds) one year only; Foreign Surface \$49.97. All payments must be in U.S. funds on a U.S. bank. Due to erratic postal changes, all foreign rates are one-year only.

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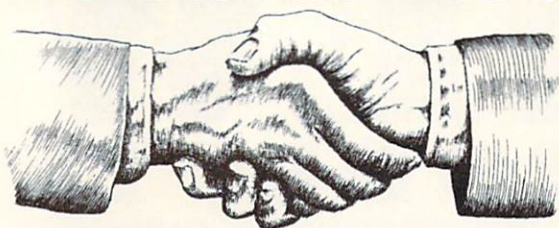
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Sample Wrench V3.0

dissidents announced the release of their version 3.0 of Sample Wrench, the 16 bit visual sound sample editor for the Amiga line of computers. This upgrade adds many special effects to its audio processing capabilities. Users now have access to features such as reverb, flanging, chorus, and echo. Fast time stretch and pitch shift have also been added, so it is now possible to compress a 33 second commercial into a 30 second spot in just a few minutes on an A3000. Sounds may be viewed with a variety of axis units including seconds, samples, SMPTE frames, or beats. The package may be used to add editing flexibility to the Studio 16 system from SunRize

Industries, and also supports playback via the Toccata sound card. Sample Wrench also offers a very extensive ARexx/macro capability.

The Sample Wrench also works with a wide variety of keyboard samplers including all MMA Standard Sample Dump Devices, Sequential Circuits Prophet 2000 series, Yamaha TX16W, Ensoniq EPS and EPS16, Akai S612, S700, S900 series, Roland S700 series, Korg DSS1 and T series, Kruzwell K2000, and Peavey DPM-SX and DPM-SP (MIDI and SMDI). The package will edit sounds in AIFF, WAVE, 8SVX, RAW, and Sound Designer I formats. Complete documentation is included on disk, along with the full-size 200 page manual.

Sample Wrench 3.0 runs on all Amiga computers, using AmigaDOS 1.3 or higher (2.0 or higher recommended) with one megabyte of memory. SRP is \$299. Owners of version 2.X can upgrade their disks for \$20, 1.X users can upgrade for \$40.

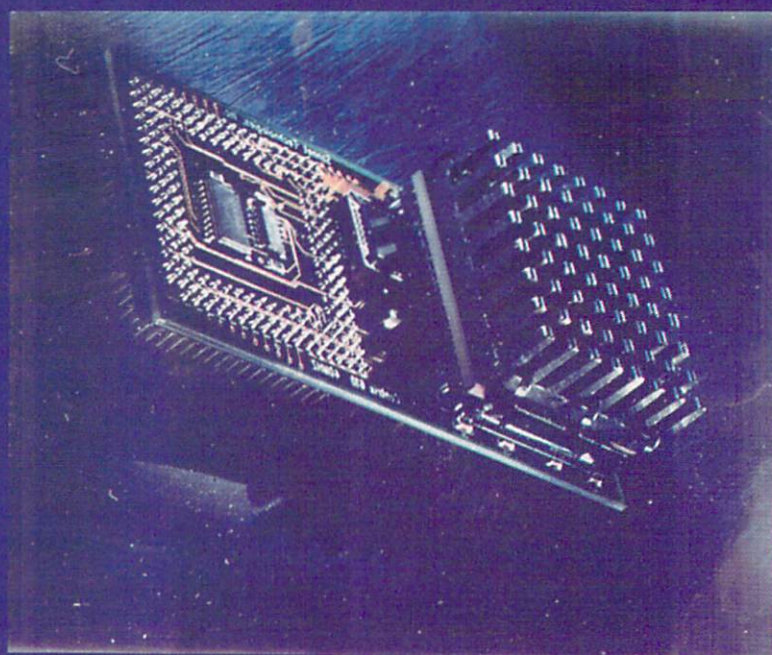
dissidents, 10325 Woods Road, Utica, NY 13502-6723, Tel 315-797-0343 or jfiore@bix.com

Announcing the High Flyer™

Legendary Design Technologies has announced that the High Flyer™ is now available. The High Flyer is a hard disk box that is intended for use with NewTek's Video Toaster Flyer non-linear digital editing system. The current model contains 3 5.25" drive bays and 3 3.5" drive bays. This allows for an easy installation of one full height 5.25" drive, a regular 3.5" drive and a dedicated audio drive. This also allows for the installation of a CD-ROM drive, and additional 3.5" drive when necessary.

The unit is cooled by additional fans and contains a 230W power supply. The back is configured to work with NewTek's Octopus cable, and contains two (2) PC slots that supply power only (for installing TBC's for example). There is also RF shielding to keep signal loss and interference down to a minimum. It comes complete with installation instructions, the dealer and/or end user simply needs to install the disk drives and they are ready. SRP on this model 3533 is \$299.95 US.

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The Doubler 4000™ from Sonnet Technologies is an accelerator card for the Amiga 4000/40 that plugs into the 25 MHz 68040 CPU socket on the Amiga 3640 board.

FARGO Introduces New 24-bit Color Printer Driver for the Amiga

FARGO has released a new driver which will enable both Primera and PrimeraPro to print full 24-bit, dye-sublimation color images from an Amiga system. This new printer driver software installs both the standard Amiga printer driver previously provided by FARGO and the new FARGO: device, which appears as an icon on the desktop, onto any Amiga with system software 2.0 or higher. Any of the native Amiga file formats such as IFF, ILBM, Ham-6 or Ham-8 can be printed through the FARGO: device. The new Amiga printer driver upgrades for Primera and PrimeraPro are currently available and can be obtained free of charge from FARGO's Technical Support Department. For further information or a free printer driver upgrade, call 612-941-0050 or FAX 612-941-1852. Both the Primera and PrimeraPro Color Printers produce A/A4-size thermal wax and dye-sublimation color output. The PrimeraPro, however, incorporates several more advanced features such as higher resolution, optional Adobe PostScript Level 2, and networking capabilities. The Primera has an average retail of \$699.00, and the PrimeraPro has an average retail of \$1499.00.

FARGO Electronics Inc., 7901 Flying Cloud Dr., Eden Prairie, MN 55344, Tel: 612-941-9470 or FAX 612-941-7836.

NoahJi's Announces 68060 Accelerator for the Amiga 2000

A joint development effort between MacroSystem GmbH of Germany, and Steven L Kelsey of CompuWise Technologies will produce the first 68060 accelerator for the A2000. Design is well underway, and the first prototypes are expected to be completed in July. Shipment of this yet-to-be named accelerator is expected in early fall of this year. A fast SCSI interface will be an integral part of the design. A processor direct connection for the VLab Motion Non-Linear Editor will allow for data rates of up to 30MB per second. Pricing will be determined this summer as the prototypes are completed.

NoahJi's, 3591 Nyland Way, Lafayette, CO 80026, Voice 303-499-1975, Fax: 303-499-1979.

Fastest Accelerator for the Amiga 4000/40?

Sonnet Technologies has introduced the Doubler 4000™ accelerator card for the Amiga 4000/40. This "plug-and-play" accelerator is 100% hardware and software compatible. The cache is the key in this unit. Simply putting a faster processor into an Amiga does not help much unless the system can supply enough data to keep it busy. That is why the Motorola 68040 contains a large on-chip cache. This cache frees the Sonnet Doubler to work semi-independently of the Amiga memory subsystem. In fact, 85% of the time the cache contains the data and instructions necessary for the Doubler to continue at full speed. It also includes an on-chip math coprocessor. This daughterboard plugs into the 25 MHz 68040 CPU socket on the Amiga 3640 board. Customers are given photo-illustrated installation instructions plus all the tools necessary to perform the installation. The Sonnet accelerator is completely reliable and system safe and it carries a one year warranty. THE SRP is \$599.

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Creating Nebulas With LightWave 3D

by William Frawley

Unlock some of the greatness
of LightWave by recreating
those awe-inspiring
background nebulas often
seen surrounding Babylon 5.

If you're an Amiga user and you haven't yet witnessed the glorious LightWave-created special effects of Babylon 5 (those living in Antarctica are excused), please, sell or give your venerable machine to some other space/sci-fi freak less fortunate than thou and buy a PC.

You see, I've always assumed, quite precociously I may add, that Amigas and science fiction were as inseparable as wine and cheese, Siamese twins, and Beavis and Butthead. From the early beginnings of the desktop computer revolution, the Amiga exemplified the means to affordable graphics and animation creation — the tool with which to realize all those Treknicolor dreams roaming about our cerebral cortexes.

Enter Babylon 5, respectable science fiction television programming with special effects we've all dreamed about, and created primarily with Amigas. Because of this show, I now keep a small rag constantly at my side to sponge off the drool anytime I watch the LightWave 3D-generated effects. Therefore, as a LightWave user, it is my duty to unlock some of the greatness of this powerful software by recreating those awe-inspiring background nebulas often seen surrounding Babylon 5.

Now I realize that some of you may not own LightWave or the Video Toaster, although the two have recently been unbundled so you no longer have to buy the Toaster to get LightWave, finally. However, for those genuinely interested, the techniques presented here will undoubtedly aid in your understanding of some of the concepts inherent in 3D animation. The process described below for creating professional-looking nebulas should serve to thoroughly acquaint you with some of the more often-used aspects and features of surfacing objects such as color, luminosity and especially transparency texture mapping.

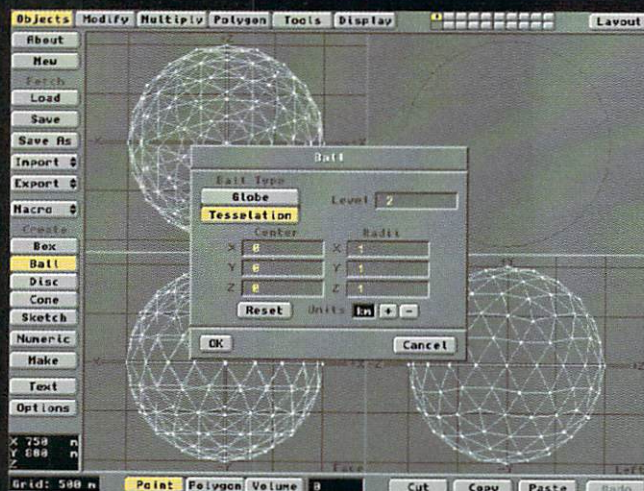


Figure 1: Use the Ball tool to create a Tesselated sphere. The nebula will eventually be mapped on the inside once the polygons are Flipped to face inwardly.

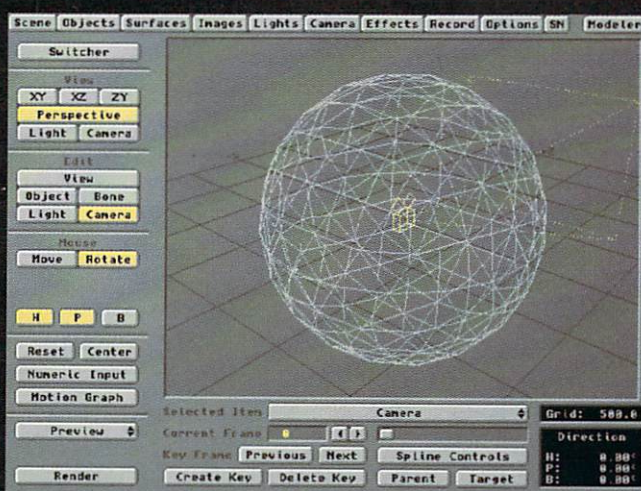


Figure 2: Positioning the camera within the nebula sphere.

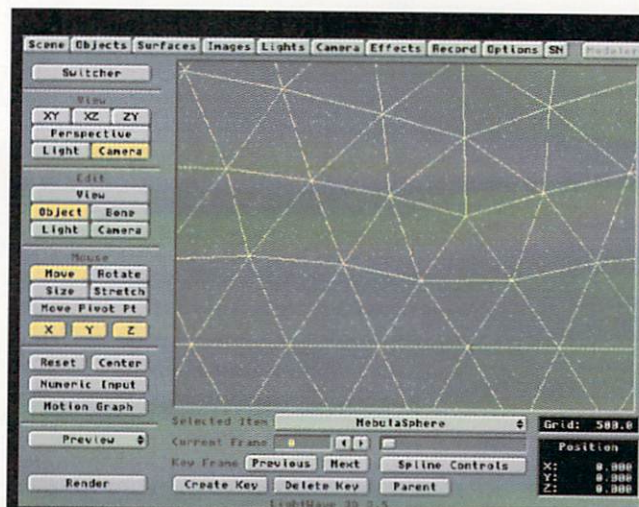


Figure 3 (left): The view from inside the nebula sphere. Note the stars (particles) in the background.



Figure 4: The key ingredient for creating the surface of a nebula is the Fractal Noise pattern for both the Luminosity and Transparency procedural textures. The transparency texture should be at least twice as large as the luminosity texture so that patches of nebula appear instead of one solid wall of gas when no transparency map is used.

Before we begin, let me take this moment to apologize to those readers who were looking forward to a tutorial on Aladdin4D gases. In all honesty, after using LightWave for quite some time now, I find it painstakingly difficult to use any other program. Granted, the gases in Aladdin4D are indeed unique and powerful; however, rendering times for this feature are extremely s-l-o-w, even on an 040. Therefore, watch for other AC authors who may wish to tackle subjects dealing with this worthy program.

Nebulas by LightWave

If all your animation requires is a simple, single color nebula to be used as a backdrop for silhouetting objects in the harsh lighting conditions of space, look no further than LightWave's own procedural surfacing capabilities. Using Fractal Noise

luminosity and transparency textures mapped onto the inside of a sphere, your entire scene contained within this sphere then becomes surrounded by patches of nebula's good enough for a subtle background effect. Add a spherical collection of single-point polygons (particles) for stars, and you're ready to roll.

Begin in Modeler by creating a two-level (2) tessellated sphere with an XYZ radius of 1km (an even unit of 10 helps later when working with texture value percentages). You'll need to access the Ball tool's control panel by selecting Ball in the Objects menu, then Numeric ('n') to manually alter the parameters. Enter the above figures leaving everything else at default, then press 'Enter' to accept the requester then 'Enter' again to make the sphere (Figure 1). Press 'a' to fit the entire globe within view. Although not

paramount in this case but more for planet and moon creation, using Tessellation produces a smoother outline to the ball, especially when seen close up.

Currently, the polygons making up the sphere all face outwardly, which is not what we want. We need to have them face in the opposite direction so that they will be seen from inside the sphere. To rectify, use the Flip tool ('f') in the Polygon menu being sure that none (or all) of the polygons making up the sphere are selected to reverse the direction in which they face. Remember, if none are selected, they're all selected. Lastly, rename the surface ('q') to "Nebula" and Export this object to Layout, naming the object "Nebula.sphere."

Just Scratching the Surface

Back in Layout, move the Camera along the Z axis to either the origin (0,0,0) or as far back on the Z axis (negative direction) before it leaves the inside of the sphere just created (Figure 2). Use the XZ view to visually aid with the camera placement. By placing the camera as close to the inside wall of the sphere, the maximum amount of the nebula's real estate can be seen when feedback for adjusting the surface parameters is required (Figure 3). Make sure now to create a keyframe ('Enter' twice) at zero for both the camera and Nebula.sphere object. Now for the surfacing.

In the Surface menu (Figure 4), select a color for the nebula. I chose a blue with RGB values of (70, 0, 170), respectively. Now leaving the Luminosity value at 0%, press 'T' beside it to access the Luminosity Texture panel. Enter the following values, leaving all others at their default:

Texture Type:

Fractal Noise Texture Size:

250

50

250 Texture Value:

100% Frequencies:

6



Figure 5: The final nebula created entirely with Fractal Noise procedurals. Three lens flares, the Star Destroyer included with LightWave 3.1 and a custom made starfield round out the nebula scene.

In essence, the fractal noise generates a pattern of luminosity roughly 25% of the width and depth and 5% of the height of the object. Depending how bright you want the nebula, feel free to adjust the Texture Value to anything between 75-200%. Anything higher tends to wash out the detail of the fractal pattern. At this point, turn on Smoothing and do a test render to check your results.

As you can see, the nebula fills the entire interior of the sphere. Not exactly what we're shooting for. What is necessary are large patches where the nebula is invisible or, you guessed it, transparent. Leave the Transparency value at 0% and then create a transparency texture map with the following values:

Texture Type:

Fractal Noise Texture Size:

500

500

500 Texture Value:

200% Frequencies:

6

Check your results again. Better? This is the basic idea, where there are large patches of nebula containing relatively smaller patterns of detail. For a bit more variety however, try varying the Transparency texture values for the size, especially increasing the X and Z values by a factor of three. Also, try rotating the nebula sphere using the Bank axis so it appears to be tilted diagonally. Alternatively, you could set the Luminosity to a constant value of say 100% and use the Surface Color texture to modulate the color between

black and whatever color you want the nebula to be. Remember to add some stars and your foray into basic nebulas is complete. Now for those with plenty of patience...

Rolling Your Own Nebulas

In order to get those, top-quality nebulas similar to those seen on Babylon 5, we must go beyond LightWave's procedural surface texturing and actually paint our own nebulas. Then we can map the image onto a plane object and have the negative version of the image control the transparency as a texture map. As we shall see, it is both the increased variety of colors in the image and the related transparency map for proper fall off that is the key to enhanced realism of this effect when compared to the simple nebula created above.

In order to get those, top-quality nebulas similar to those seen on Babylon 5, we must go beyond LightWave's procedural surface texturing and actually paint our own nebulas.

To begin, you'll need to paint yourself a nebula. Load your favorite 24-bit paint program. I chose to use OpalPaint, but you could also try ImageFX, Brilliance, or if you have it, PhotoShop (you'll need a Mac or an Emplant board though). Of course, if you're already an artist by trade, feel free to skip this sophomore painting tutorial and proceed to the next paragraph.

Arrange a palette of intense blues, reds, whites — any colors you think your nebula should have. I began in OpalPaint by setting up a horizontal transparency gradient that was fully opaque on one end and fell off to total transparency on the other. That way, when any of the fill tools were used, the paint would dissipate on one end into the background color, which should be black.

Generally, the easiest way to start would be to add the main nebula first (Figure 6a) using a line fill tool, then add the different colored highlights as before or try using a freehand tool with an airbrush nozzle (Figure 6b). Put the finishing touches on by smearing the different colors into each other. At this stage, it helps to have, if the program is capable, some transparency (50%) on and a reduced smear value (25%) so that the smearing process is subtle. This is where the patience comes in, working the



Figures 6a-6c (top to bottom): The various stages of creating a hand-painted nebula in OpalPaint. The final panel shows the results of Smearing the different colors into each other with additional swirling wisps.

different colors into each other and creating the gentle wisps in parts where the nebula expands into space. Once complete, save this image as a 24-bit IFF (Figure 6c).

Creating the Transparency Map

The last step before we proceed with LightWave is the creation of the transparency image map for our hand-painted nebula. Why do we need a transparency map in the first place? Well, with this method of mapping the full-color nebula image onto a plane object as a surface color texture, if there are any other objects in the scene behind this plane, they will not be visible because there hasn't been any areas within this object's surface designated as transparent. Thus, applying an image map as opposed to a procedural texture allows exact control over which regions are or aren't transparent. And since we wish the nebula to gradually become more transparent near its edges, it would seem that the actual nebula image itself inherently contains the required data, with only minor modifications necessary.

Recall that when applying images as any other texture map except surface color, only the luminance values (brightness) of the image are used, with white representing full intensity and black zero intensity for that particular texture type. Any values between the extremes are varying degrees of intensity. In the case of our transparency map then, simply convert the full-color nebula image into a greyscale negative so that any black in the original becomes white (transparent) and vice-versa (Figure 7). This is easily done in any image processing program such as The Art Department Professional (ADPro) or ImageFX.

When using these Color To Grey operators, be sure to adjust the relative weights of the RGB components in order to compensate or boost the opacity of certain portions of your nebula. For example, after applying the Negative operator, if the Color To Grey default values for the Luma weighting favoring the green compo



Figure 7: The nebula image after it has been converted to greyscale and processed through the Negative operator in ADPro. This image will serve as a transparency map for the plane object containing the full-color surface mapped nebula. The white areas represent full transparency, the dark opacity.



Figure 8: Modeler's ability to display a background photo allows tracing the nebula image for an exact fit onto a plane polygon. Note the image was scaled horizontally to fit the video resolution it was originally created in.

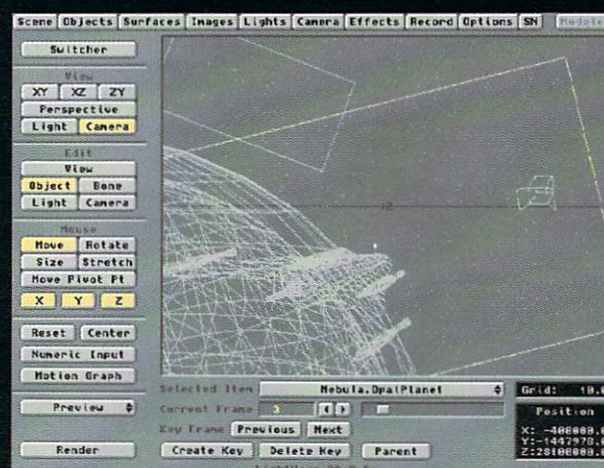


Figure 9: The final layout in LightWave of all the elements in the nebula scene as shown in Figure 10. The two angled, rectangular planes contain the hand-painted nebulas.



Figure 10

The final localized-nebula scene was rendered in Medium resolution (752x480) with medium anti-aliasing and motion-blur added for the moving ship. Total time: approximately 25 minutes.

nents are used for the transparency map, much of the blue in the nebula image will be too transparent and hence won't be visible. Compensate for this with larger values (relative to the others) for the blue component.

Notice the blue areas are then darker in the greyscale transparency map. If, however, this results in areas of intense hotspots, use the Dynamic

Range operator to reduce values for the upper limit or increase the minimum values. Alternatively, if available, you could use OpalPaint's ChromaCtrl mode to boost just the color components necessary. Modify the Slope curve by increasing Shear to boost the upper limit while using Gain to flatten the lower values so the black remains black. Then create a

negative of this image.

If all this sounds a little abstract at this time, that's okay. Once you've rendered the nebula scene, you can return to this point and adjust the values for the transparency map accordingly. For now, save the image as "Nebula.trans."

With the nebula pic and its related transparency map completed, enter LightWave and load these images from the Images menu. Proceed into Modeler and access the BG Image requester in the Display menu. This will allow us to see the nebula image in the background of Modeler's Face view so that we may create a plane object matching the image's dimensions. Select the nebula image from the list and choose the Z axis on which to display the image. If the image was created in video resolution, enter an X size of 1.3 to stretch the image horizontally to match television's aspect ratio of 4:3 (the aspect in which it was created). If the image was originally scanned or uses square pixels, leave the size at 1. With the nebula image now showing in the Face view background, use the Box tool in the Objects menu to create a plane

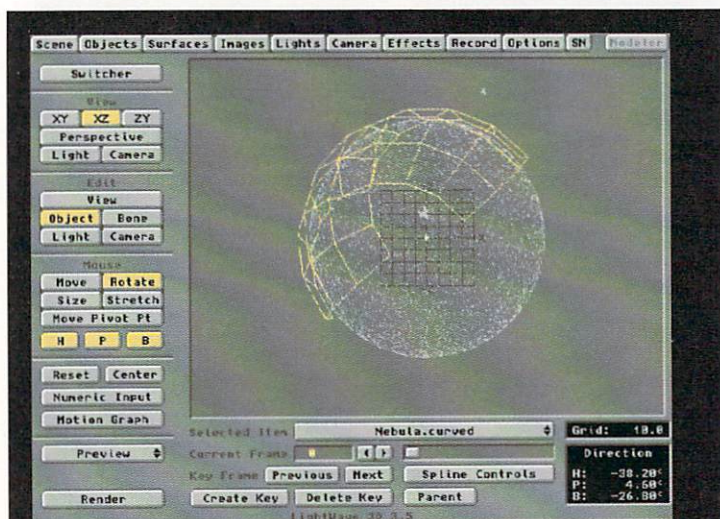


Figure 11

Yet another method of filling your space scene with a nebula. Simply map the nebula image onto a curved set of polygons behind your spherical starfield. Severe panning is now possible and the nebula will remain in view throughout the duration.



outlining the perimeter of the image (Figure 8). Press 'Enter' to Make the polygon and then 'q' to rename the surface to "Nebula.plane." Export this object to Layout.

Back in Layout, enter the Surfaces menu and select the "Nebula.plane" surface for editing. Enter the Surface Color Texture panel (T) and apply the

should have been put into creating the nebula image.

Finally, arrange the nebula object in your scene accordingly (Figure 9). Throw in some stars and render away. For added realism, it helps to increase the scale and distance so some of the stars (particles) will appear in front of the nebula. Also, because this object is

panning of the camera within the scene all the while keeping the nebula in the background for silhouetting purposes (Figures 11 and 12).

As I'm now out of space, I'll leave it up to you to figure out at least two more ways of creating nebulas for your all-important space scenes. Further-

Furthermore, as particle system capabilities evolve for LightWave and similar programs, creating actual gaseous nebulas will be only a couple of upgrade versions away from reality.

nebula image as a Planar Image Map on the Z axis. Select Automatic Sizing for a perfect fit. Next, enter a Luminosity value of 300% and change the Diffusion to 0% as we do not want the scene's lighting conditions to affect this surface. Proceed to enter a Transparency texture in the same manner as the Surface Color image map, but use the "Nebula.trans" image map instead. That's all there is to surfacing this object. Most of the effort

self-luminous, you can turn off any lights if not required to save some rendering time.

The Final Frontier

So how does the team at Foundation Imaging actually do it? According to Mojo, they hand-paint the nebulas in Adobe Photoshop in extremely large resolutions and then map the images onto a curved planar object lying behind the star field, thus allowing for

more, as particle system capabilities evolve for LightWave and similar programs, creating actual gaseous nebulas will be only a couple of upgrade versions away from reality. Can't wait till then, so.... Engage!

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DPaint V

by R. Shamms Mortier

Is this much awaited upgrade to Electronic Arts' major contribution to the Amiga for everyone?

The Grandfather Clause

Anyone over forty knows well that no matter what you do, if you do it long enough, your place in history (or at least in your community) will be safe and secure. If you're publicly crazy for a long time without flinching or giving in to the socializing efforts of your neighbors, your craziness will eventually be accepted and even emulated (and folks will even pay money to see what you do). Artists

developers that continue to put out product for our platform of choice are held up as gurus, faithful savants who haven't abandoned the ship. It's almost treasonous, or so one would think when hearing the loud cacophony of irritated Amiga cultists, to attempt to look objectively at a serious Amiga software release.

That narrow attitude, however, will do all of us great harm in the long run, so it's best to look carefully at all

definition of how the basic tools in DPaint work. Instead I'm going to concentrate on how various tools and processes have changed in this touted "major" upgrade.

Reportedly, a good handful of software engineers from Digital Creations (now Play, Inc.) emigrated to Electronic Arts some months ago to work on this DPaint release. That was seen as significant because Play is the developer of DPaint's main competitive products, Brilliance and TrueBrilliance. This news was seen as very interesting for Amiga DPaint artists, because we might then expect that some or most of the superlative features of Brilliance would wind up somehow integrated into DPaint. Is that the case? Read on.

If you don't have an AGA Amiga (an A4000 or an A1200), I don't think you should bother upgrading. DPaint V is suited best to AGA Amigas because of both speed and options. I worked with it on an Amiga 4000 with 32MB of RAM and lots of hard drive space. Many of the best new features, like painting media and textured surfaces, have no visual meaning on non-AGA platforms.

As the screen opens up to resolution choices, DPaint V looks like the same DPaint that we've become used to since DPaint IV with one exception. There is now a toggle for a 24-bit buffer that allows DPaint to keep track

Reportedly, a good handful of software engineers from Digital Creations (now Play, Inc.) emigrated to Electronic Arts some months ago to work on this DPaint release.

have known this for a long time. The same is true for products in the marketplace, especially those that develop a rabid following over time.

In this land where anything resembling a "tradition" is so rare that it is ferociously lusted after, persistence and presence often substitute for a needed critical objectivity. For that reason, especially given the chaotic state of affairs in the Amiga community lately, established Amiga software

software packages that purport to be doing things in our best interest, especially those wares established deeply in the Amiga psyche (of which DPaint is probably the best, most long-lived, and respected example).

So What's New?

I am going to suppose that you have some knowledge of and acquaintance with DPaint, so I'll skip over subjects that deal with an introductory



Figure 1. From left to right, top to bottom, we can discern the difference among various types of new DPaint media choices: Chalk, Felt Tip, Oil, and Watercolor.

of painting so that 24-bit depth is saved when the art is finished. DPaint still recognizes only IFF files (not even JPEG's), though it is accompanied by the competition's failure to go beyond this limitation as well.

Loading in a 24-bit image does not seem to be much faster than before, though it is now accompanied by animated on-screen "completion gauges" to attempt to ease the painful wait. 24-bit work does come in nicely, and reformatting the screen size takes place quicker than it used to with high resolution color pictures. For some reason, however, the screen refuses to scroll when used with multiscan monitors that have the MultiScan option turned on in preferences (I use a SONY 17" multiscan). Competitive programs (and even Workbench) have no problem with this, except that even

WorkBench refuses to scroll when DPaint is running. The more negative side of this is that in some higher resolutions, the right half of the toolbar is not accessible, and in some overscan cases disappears altogether.

One caveat, if you try to change the drive path to another volume while this requester is up, be prepared for a hard crash.

The addition of "Natural Media" is a first for DPaint, and also a first serious attempt to include this feature on an Amiga platform.

One new feature is an added requester that pops up when you hit the F1 key after bringing up the Save menu. It allows you to add your name and other data to the picture file, and also gives you the storage capacity left on the drive to which you are saving.

Natural Media

The addition of "Natural Media" is a first for DPaint, and also a first serious attempt to include this feature on an Amiga platform. Painting software on other platforms has sported enhanced ways of adding

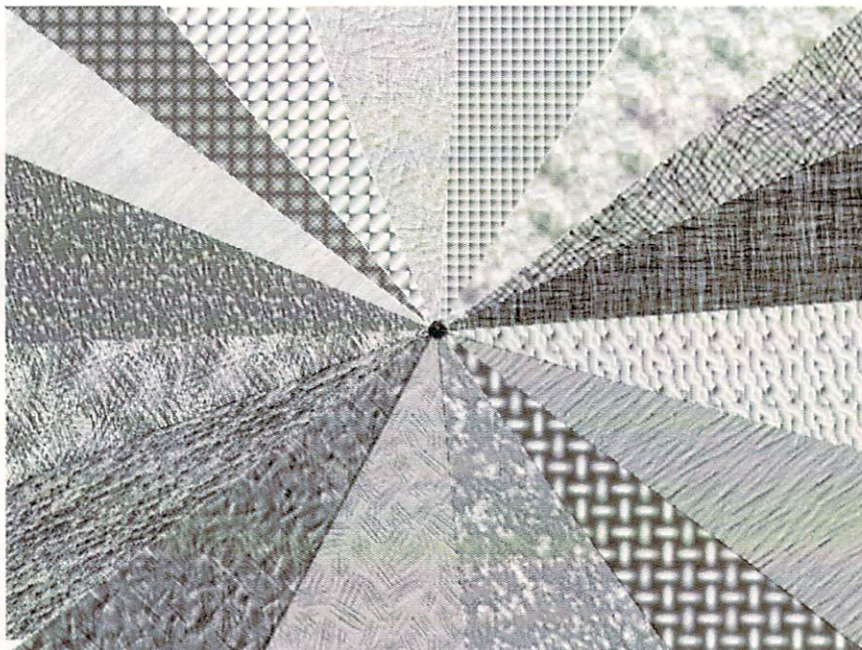


Figure 2. This display shows just a small selection of the new DPaint textures.

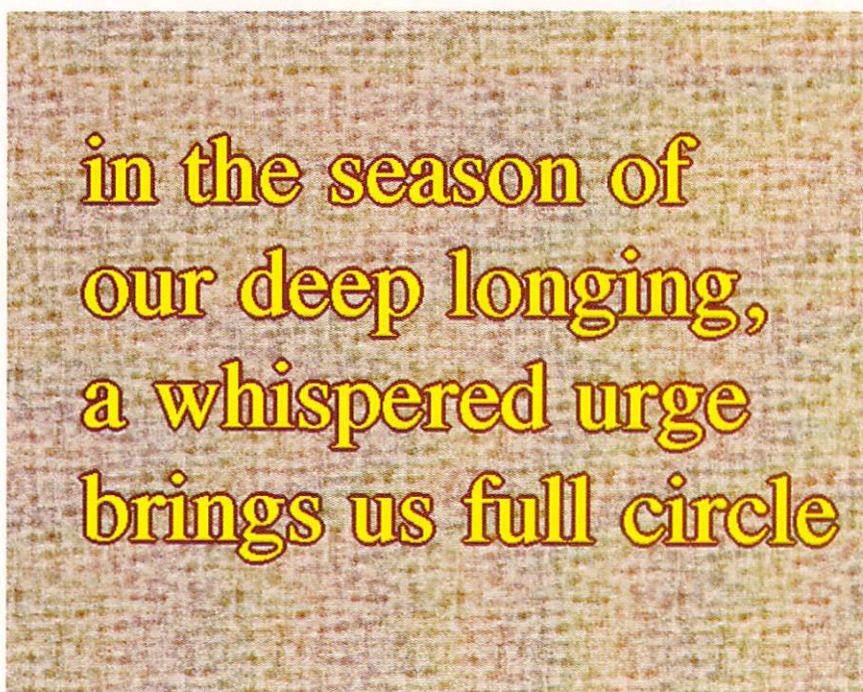


Figure 3. Textured backgrounds make nice environments for text.

background "textures" and emulated media tools for quite a while. In DPaint this takes two related paths. The "textures" are background brushes that paint in any selected translucency or color. The media consists of four separate items at this point: Chalk, Felt Tip Pen, Oil Brush, and Watercolor Brush. Each of these emulates the traditional mediums fairly well, though more work needs to

be done at the programming level here to bring these tools up to the par of painting software on non-Amiga platforms. The Textures option can be toggled on/off at will, so that actually painting with textures is possible, as well as filling with them and airbrushing.

Speaking of an airbrush... Airbrushing in DPaint has finally become more like the real thing. You

can still spatter color pixels as in the past, but now you can also get a true airbrush feel as a fine mist of spray is digitally deposited on the screen. You can adjust both the intensity and the spread of the spray. This finally gives AGA users tools formerly reserved for 24-bit airbrushing software.

Animations with multiple palettes are no longer a problem

Animation

On the animation side of things, DPaint emulates TrueBrilliance by allowing more exact keyframe animation tools, as well as the ability to manually control where a selected brush starts and ends in an animation. Animations can also freeze on-screen at any selected frame before moving on. I wish that splined controls were a part of this feature, but one can't get everything at once I guess.

Another animation feature is the enhancement of the "LightBox" tools, so that various levels of translucency can aid you while drawing animated frames. The addition of "camera moves" in the animation controls will be of benefit to animators who wish to add more variability to their DPaint 2D animations. There is now an option to print a selected range of AnimBoards (storyboard frames) in the Print Requester, and the long awaited ability to edit larger than screen animations (Hooray!). Animations with multiple palettes are no longer a problem (another Hooray!). From the Animation Control Panel it is now possible to control the translucency of a brush or animbrush as it moves through the sequence.

While there are other new and enhanced features in addition to those I've mentioned, I think I've covered the bases well enough to give you a

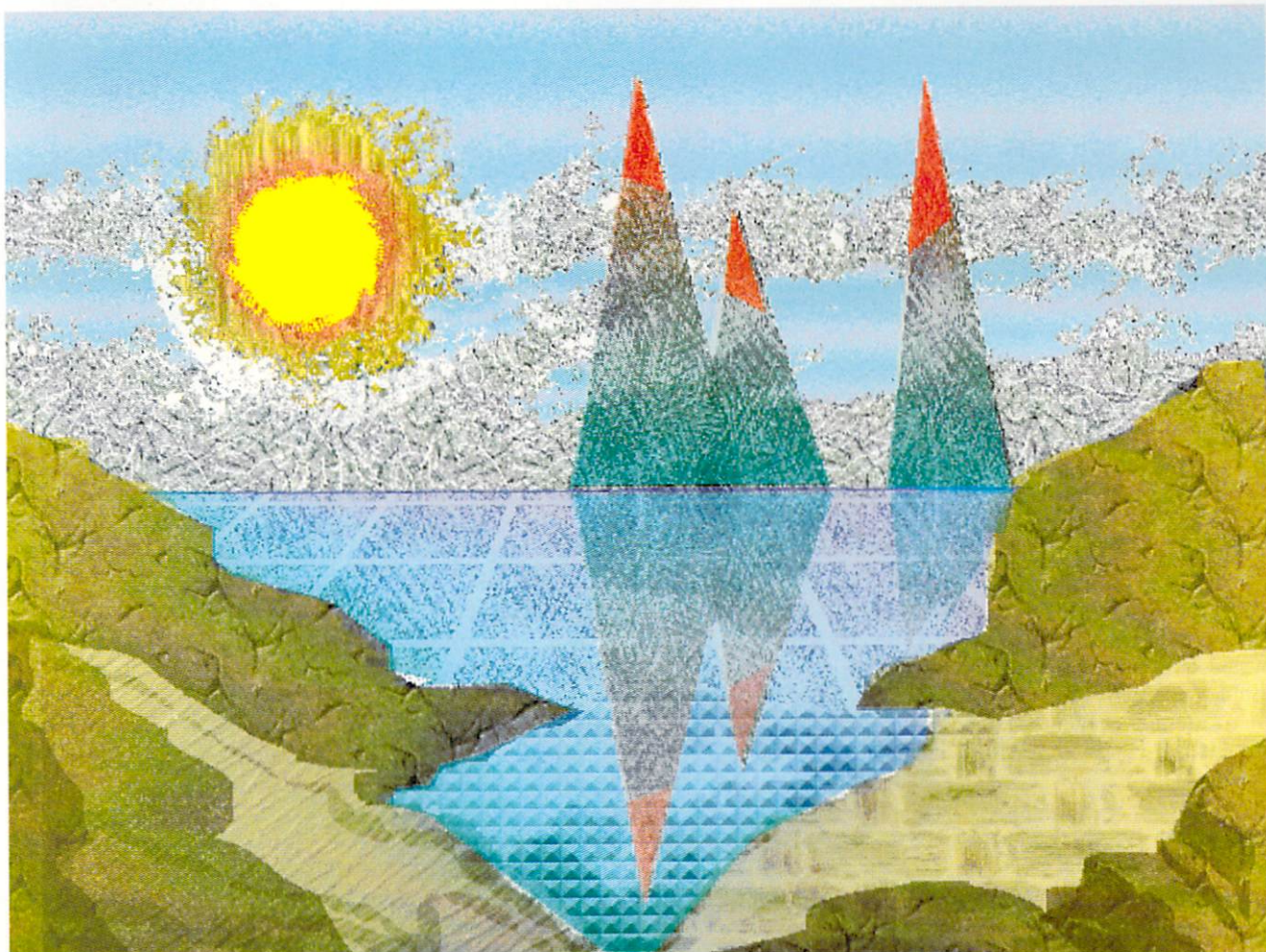


Figure 4. With a modicum of experimentation, DPaint V can be the perfect environment for painting with textures.

feel for the difference that this upgrade holds over previous versions.

In Conclusion

Firstly, thanks to Electronic Arts for still being there. Electronic Arts was there for the Amiga when very few other developers had even heard of it or cared, and has remained as a player all these years. Now to some more critical remarks.

DPaint is still slower than I would like to see, even though the manual insists that it has been speeded up. Placing a brush while in the 24-bit mode is a painstaking and often frustrating process, as it moves by jumps and jerks. On the very positive side, the Print requester has finally been upgraded to one with more variability and options. The texture/media brush additions are features that will probably be the talk of most

DPaint obsessives for awhile, though I think work still needs to be done here. There should be a way to get the media to take more notice of a texture other than adjusting the translucency of the paintbrush. The addition of ARexx support is appreciated.

In a way, DPaint is a paradigm, a projection, of the Amiga itself. By looking at how DPaint has changed over time, we can glimpse the Amiga. This edition of DPaint does not have the sparkle previous DPaint upgrades have had, but the Amiga situation up until now has also been less than sparkling. Most of this is due to lack of market excitement, and not the result of the software.

There is much that ESCOM will have to do in order to regain the rabid enthusiasm of the Amiga community that was, as there is much for Electronic Arts to do in order to recapture

its once held lead as the leading painting program. Brilliance and AlphaPaint outstrip DPaint in speed and painting options, TrueBrilliance on AGA machines and AlphaPaint for Toaster users. Newcomers to the fray include Personal Paint and PhotoGenics, both from Europe, and both with much more power and new feature potentials than grand-daddy DPaint. When compared to painting wares on other platforms, DPaint and all the rest of the Amiga paint programs have a long way to go. One question remains unanswered, if our fantasies of an Amiga resurgence comes to pass, will there be a DPaint VI that will shine as a future star in the digital sky? The Amiga market and how it does or does not maintain or grow will no doubt provide the definitive answer.

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Connect with ENLAN-DFS 2.0

by R. Shammis Mortier

Network your Amigas for maximum performance and full Amiga productivity.

At the start of my electronic design life, I was doing OK with my two Amiga 1000s. Then I got the idea that I could connect them together, so I purchased a CVA2B-4 video amplifier from Radio Shack, which allowed me to connect two Amigas, albeit in a rather primitive fashion. After all, those were the days before the fancier hardware and software we now take for granted was even a dream.

Eventually, after the funeral rites were offered for my Amiga 1000s, I got two A2000s, an A3000 tower, and (finally) an A4000. The work I began to do for clients in my graphic design business called for more and more processing power, and I couldn't afford to be in a waiting mode while a needed system was rendering. About the time that all of these systems went on-line, I realized that each had its own hard drives and other peripherals, and that there would be times when one of the systems would need the stored data that another possessed. I opted for ParNet, but that had some serious flaws. I could only connect two systems at a time for instance, and some attributes of data transfer (like read/writing another system's RAM) was impossible. I decided to bite the bullet and go for it.

My first major step in this direction was to purchase four ASDG (now "Elastic Reality") RoverNet boards, one for each system. Though these come with basic software, it was nothing close to what I needed, so I began looking around for the software component. I chanced upon Allan Brooks of InterWorks, and he lauded the potential of his software: ENLAN-DFS. I took the plunge, and I haven't looked back since. Networking, especially "Local Area Networking", has been around for a while. It started with the need to crunch numbers faster, and has now grown to the point where digital video and computer graphics rendering tasks are hard pressed to continue without one, since these tasks are commonly accomplished by addressing more than one system at a time (known as "render farming"). Since the Amiga was built specifically for videographic applications, it's only natural that networking Amigas together is a desirable way to get the job (especially the big jobs) done. Networking allows you to use storage devices and other peripherals much more efficiently, since any computer linked to the network with the right software can tap into any other links hard drive, printer, or other connected external devices. A whole office networked together represents a pretty big savings over a collection of scattered systems.

I have seen ads for ingenious networking solutions that don't take up any precious card slots, but I know that the software that drives these alternate solutions is nothing like ENLAN-DFS. In my business, I can't afford to save pennies at the expense of less than the best solution. The EB920 LAN Rover hardware from ASDG (Elastic Reality) are high quality boards,

tested over time by hundreds of satisfied users. These boards have DMA circuitry, and allow data to be passed from one to the other at speeds up to 10Mbits per second. The boards are equipped to handle what is called "thin ethernet" or "cheapernet" transfers. There is a BNC connector on the end of the board, and it snaps easily into an empty slot (ZII or ZIII). A BNC "T" cable is connected, and the boards are attached together with 50 Ohm or twisted pair cabling (available at Radio Shack), while one end of the T-bars connected to the systems at either end of the network have to be capped with 50 Ohm terminators. That's all there is to the hardware part of it.

Quality, Quality, Quality

To make a network operation satisfactory, you need a software manual that will guide you through the installation process as clearly and kindly as possible, and service from the developer for those questions that your techno-brain can't yet grasp the answer to. This is where InterWorks comes in. Interworks now markets the 2.0 version of ENLAN-DFS. The first version was easy to understand, the 2.0 version is ten times as easy. A classic point-and-click graphic interface makes the learning curve a breeze.

A standard installation script takes you through the first step, including the selection of various hardware options (the Elastic Reality boards are listed as one of those options). Next, it is important to run the ENLAN "IConfig" program. There are three main aspects to IConfig: naming the present "Node" (the code name of the system you are presently using, so it will be recognized by other nodes on the network), selecting which "resources" (hard drives, printers, etc.) will be exported for use by other nodes, and choosing which resources on the other nodes to import. Your first system, as an example might have a hard drive and your second system might be connected to a laser printer. The first system would export the hard drive and import use of the laser, while the second system would be configured to do the opposite.

"Naming" the node allows you to select which one is the local system. Naming conventions are up to you, though we use a simple numbering system at our facilities. If any changes occur down the line, it's easy to go in and modify the node list again, deleting, adding, and renaming specific units. A "server" is a system on the network that acts as the central provider for other nodes. On our network, all systems act as servers for all the others, though your needs might determine that only one system acts in this role. There are several levels of file protection possible as well. You can select a resource (a hard drive, for instance) to be a "read only" target, thereby making it impossible for another node to write data to it.

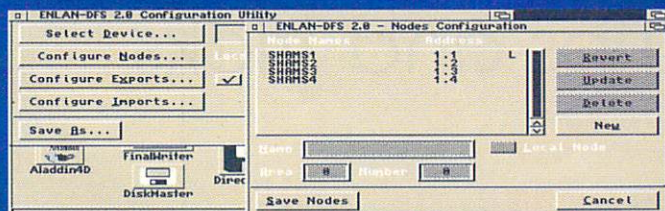


Figure 1. The IConfig program in ENLAN-DFS allows you to configure the names, and the Export and Import aspects of your network.

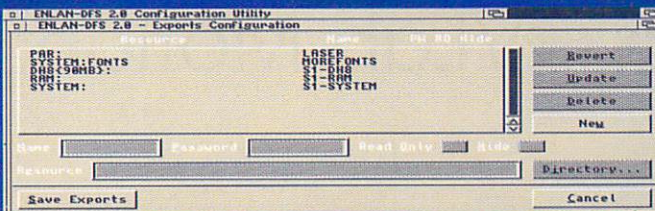


Figure 2. Exporting and Importing resources is accomplished through intuitive interface design.

By selecting a "Wait" state when importing other nodes, the targeted node will wait until other nodes are running in order to connect to them. This might mean that in a twelve node network, only five of your nodes might be up. When another one is turned on, the whole network is automatically updated. If one is shut down, the network compensates instead of crashing, though you are presented with a warning flag on the other nodes that must be responded to.

EID

EID (Export, Import, Deport) is a special optional program that allows you to modify the network in real time. We keep it handy on the main WorkBench screen. "Deport" means to remove a selected resource from the network. Unless "Script Modification" is turned off when using EID, the ENLAN script will be modified, so using EID has to be done with care. There is a "NetCLI" command that allows you to actually execute commands on another remote node. You could, for instance, read another system's directory in this manner, or even make a new directory. A separate "NetRexx" module allows you to execute ARexx commands on remote nodes, opening up all kinds of possibilities. There's even a special "SendNote" function that will send a note of up to 200 characters to selected nodes (inter office memos). A "ShowSANA" program allows you to see all of the technical specs that reference your SANA-II device (hardware).

One of the things we have become quite used to with our ENLAN-DFS network is the exporting/importing of every system's RAM drives. This means that at any time we can save something to RAM on one node and have access to it on all the others. What this saves in time and aggravation is inestimable. Quite often, rendering tasks are greatly enhanced through the use of this system. We can render and save out a LightWave scene as an RGB file and preview it in OpalVision on another node. A large part of a hard drive on a non-LightWave node is devoted to textures, while another node contains hundreds of original 3D models. All of this data is easily accessible to LightWave. This means that Toaster 4000 owners are not limited by the two IDE drive limit, even though the local Toaster system may not have its own SCSI drives, it can make use of storage devices on other nodes.

Just as a person can be judged by the company that they keep, so a product can be assessed by the companies that it serves. A selection of sites that use ENLAN-DFS includes NewTek, the U.S. Army, NASA, a long list of schools and libraries, SCALA International, Innovatronics, the RoboCop TV series, Innovision, Blackbelt, LightWave animators Lee Stranahan and John Gross, CEI in Florida, IBM in Rochester N.Y., the National Geographic Society.. and many more well known sites.

InterWorks also purchased the license for development and distribution of TCPIP (Transport Control Protocol / Network Protocol) from Commodore, meaning that ENLAN based networking can address and incorporate most other platforms in addition to the Amiga, all on one network.

Other Considerations

An Interworks site license is available from InterWorks for ENLAN-DFS that allows you to connect up to five nodes on one network with one software package. Additional site licences are required if your network needs to expand beyond that limit. How many nodes is the upper limit? Would you believe over 63,000 (how would that be for a rendering farm?). Because it addresses all of the accepted networking standards (SANA II compliant), ENLAN-DFS also allows you to connect diverse platforms, as long as they address the SANA standard. ENLAN-DFS is my networking software of choice. Interworks is busy at work developing a whole line of new products, including a Toaster solution called ToasterNet.

Oh, in case you want a rundown on what my networked systems are capable of, here's a brief description of what the ENLAN network connects: an Amiga 2000 '030 that has OpalVision, a Polaroid FreezeFrame, and my B&W HP LaserJet IV; an Amiga 2000 '030 that is used as a MIDI music station, and which contains the LIVE board, the One-Stop-Music-Shop, the Triple Play-Plus connector from Blue Ribbon, and a huge database of Amiga music software and samples; an Amiga 3000T with the Toccata, MovieMaker, a Toaster, a Picasso, DCTV, a CD-Rom drive, a 14.4 modem, and is loaded with 44 megs of RAM; and my trusty A4000 with an Emplant Mac/PC emulator, a Primera-Pro color printer, and the Retina board. Each of these systems has at least one fat hard drive, and each system can read any other system's drives (including a Bernoulli removable drive and the CD-Rom). Each system's RAM disk is also available to any other for quick data transfer. The printers are both available to all systems. Because of the ENLAN software, there is no task that a client requires that is too big or too deadlined. I wouldn't dream of operating without the quality help of ENLAN-DFS and my sweet Amiga network.

ENLAN-DFS 2.0 MSLP:
\$349.00 per five-node license
InterWorks
43191 Camino Casillas
Temecula, CA 92592
(909) 699-8120
(909) 699-8279 FAX

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VLab Motion: Tips and Tricks

By Douglas J. Nakakihara

Use VLab Motion's editing software package, MovieShop, and ARexx to ease your animation tasks and more.

VLab Motion distributed by NoahJi's is one of the most exciting products to ever come out for the Amiga. Primarily a non-linear digital editing product, it is also fantastic for playing back 3D animations full-frame at 30 frames (or 60 fields) per second with 16-bit stereo sound. Furthermore, without the added cost of a TBC, you can capture video in real-time, save the frames as IFF images, and use moving video as surface maps in your animations! (Is this a dream for 3D animators or what?)

VLab Motion's editing software package, MovieShop, initially received some harsh reviews, but things have changed. It's got a brand new manual (which I authored) and many new features. So if you were turned off by early reviews and such, VLab Motion is worthy of a second look. (Note: If

you are considering buying VLab Motion, be sure to call NoahJi's first and get information on optimum system configurations.)

Invaluable Tool

I use VLab Motion more often for LightWave animation playback than anything else. Most of the time this is for previewing and checking animations. All of my projects so far have required video quality better than VLab Motion's composite or S-Video outputs can deliver. As such, the original rendered frames have been single-framed to the format-of-choice at a post-production facility via Exabyte tape. However, since 99 percent of the my work usually occurs before "clicking the render button" for the final time, VLab Motion has been an invaluable tool.

OK, enough with the sales-pitch, on with the show.

How Much Time?

The first question out of most people's mouth is how big of a hard drive is required. Well, VLab Motion is a Zorro II card, and since the Zorro II bus is limited to about 2.5MB/sec. of sustained data transfer, a one gigabyte drive should be able to hold over six minutes of video. However, the reality is that for various reasons you will probably average something less than that transfer rate. Therefore, you should be able to record at least seven minutes per gig, and maybe more. (Of course, you can always increase your recording time capacity by lowering the JPEG quality setting.) By the way, the impact of storing the video's audio, which must be on a separate partition, is virtually negligible.

On a related note, you have probably heard about MacroSystem's DraCo computer. Well, the geniuses at MacroSystems have figured out a way to triple and maybe even quadruple DraCo's Zorro II bus transfer rate using the existing VLab Motion card. This should satisfy even the most demanding users. The limiting factor will then be the optional component YUV output adapter, which is due out soon. They still plan to build a DraCo-specific VLab Motion that will handle uncompressed video—that's about 27MB/sec!

Nine Simultaneous Picture-in-Pictures

While watching the demo tape that comes with WaveMaker 2.0



-3x3.jpg Example video frame from the nine PIP Time Line.

MOVIESHOP.1
91 Time Line

	006.00:00	006.01:20	006.03:10	006.05:00	006.06:20	006.08:10	006.10:00	006.11:2
0	Temp			Temp			Temp	
1	QuickScale			QuickScale			QuickScale	
2	Temp			Temp			Temp	
3	QuickScale			QuickScale			QuickScale	
4	Temp			Temp			Temp	
5	QuickScale			QuickScale			QuickScale	
6	Temp			Temp			Temp	
7	QuickScale			QuickScale			QuickScale	
8	Temp			Temp			Temp	
9	QuickScale			QuickScale			QuickScale	
10	Temp			Temp			Temp	
11	QuickScale			QuickScale			QuickScale	
12	Temp			Temp			Temp	
13	QuickScale			QuickScale			QuickScale	
14	Temp			Temp			Temp	
15	QuickScale			QuickScale			QuickScale	
16	Temp			Temp			Temp	
17	QuickScale			QuickScale			QuickScale	
18	Background			Background			Background	
19	Compose			Compose			Compose	
20	Compose			Compose			Compose	
21	Compose			Compose			Compose	
22	Compose			Compose			Compose	
23	Compose			Compose			Compose	
24	Compose			Compose			Compose	

Screenshot of the Time Line created with the MS_9PIP.rexx script.

(Radiosity), I thought it would have been nice if they also showed the effects in a three-by-three matrix. With nine effects visible at a time, it would be quicker to pick out the one you want. This looked like a job for...VLab Motion.

First I digitized at least five seconds of each prefabricated effect from the demo tape. Then I trimmed them down to exactly five seconds and pasted them together forming a single MovieShop scene. I knew manually creating a time line for nine picture-in-pictures would get tedious, so I turned to ARexx.

My ARexx script took five-second segments of this scene and placed them on the Time Line. All of the necessary Quickscale and Compose operators are added automatically. Unfortunately, there is no way to change an operator's settings using ARexx. As such, I had to manually adjust them. Still, at least I didn't have to drag all of the scenes and the operator onto the Time Line.

The script only handles nine segments at a time. So after adjusting the Time Line elements, I'd manually increment the script's input variables and do the next nine until the entire scene was used up. (Obviously, I could have built this into the script if I wanted to.)

I ended up with a scene with several sets of nine beautifully scaled picture-in-pictures running simultaneously. Alternately, I could have done this using, say, LightWave or ImageFX as a compositing tool, but it would have taken a lot longer to set the whole thing up and process.

Slow Motion

Sometimes you might want a scene to run in slow-motion. The Delay operator provides a similar feel with

doubled one, is actually stored sequentially on the hard drive. This way the slow-motion video is in one contiguous area on the hard drive. The ARexx script I wrote for this operation starts at the beginning of the current scene and exports a frame as fields. Each video field is saved in a separate file in RAM. The fields are then imported twice to a new scene called "SloMo".

Note that the raw JPEG file format is used to export and import the field files. This method side-steps the JPEG conversion process which would occur if you, for example, saved using the IFF format and then imported. In that case, the image would go from JPEG to IFF and then back to JPEG again. These conversions would probably visually degrade picture quality. The import/export process would also be slower because of the format conversions.

Note the "GoToFrame next" line that follows "GoToFrame last". Frames are always pasted in front of the current frame. This is why there is a "dummy" frame at the end of a scene in the Scene Control window. If not for this imaginary frame, it would be

NoahJi's is about to distribute several ARexx scripts that more or less automatically import frames as LightWave renders them.

its "strobing" video look, but it is not slow-motion. To get slow-motion you need to play every frame in a scene more than once. You could take a scene and manually copy each frame twice to a new scene, but besides taking a long time, VLab Motion would probably balk upon playback—the demand on a hard drive to do this would be too severe.

The solution is to create a new scene where each frame, including the

impossible to add frames to the end of a scene. So when pasting frames to the end of a scene, the current frame must be one frame farther than the last frame.

Also observe that the Safetylevel is set to medium. If you have it set at high, requestors may pop up as the script executes.

If you want the scene to play even slower, just duplicate the ImportFrame line in the script.



SideBar™

*Shift gears into the lucrative field of
Legal Videography*

SideBar is a high quality barcode gun scanner and matching Amiga software. When a barcode is scanned, an AReXX file of that name is run. The use of AReXX files allows almost any response from the Amiga. Some possibilities include: play a sound, picture, or animation file; run a Toaster frame, effect or clip; IR commands; control any AReXX device.

The SideBar barcode scanner is a state of the art unit with EEPROM to hold its configuration. It will decode Code 39, 11, 49, 93, 16K, UPC, EAN, JAN, Codabar, Interleaved, Industrial, Maxtrix, and Pioneer Laser Disk barcode formats. It comes with a custom 14 foot cable that plugs into the Amiga serial port for both communication and power. Also included is its optional PC keyboard wedge cable and separate manual.

What is SideBar? It's a slick presentation toy for Lawyers!

Imagine you're a lawyer representing an injured person. You have an Amiga hidden under the table, and its video output is connected to the court room widescreen. On the table, you have your papers, including one with barcodes with a label next to each barcode. You also have the SideBar scanner on the table. OK, you want to show the jury a picture of your client's bruises after the accident, so you place the scanner on a barcode and press the button on the scanner. Up pops a picture of your client's bruised shoulder. Later you scan another barcode and it plays a computer reenactment of the accident. YOU'RE LOOKING GOOD, and you owe it all to your legal videography consultant.

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The cool thing about the latter script is it doesn't matter where LightWave saves the frames or what they are called, the script will always find them.

Automatically Importing Animation Frames

Currently there is no way to write frames directly into the MovieShop video partitions. So normally you must first render your frames to an AmigaDOS partition and then import the frames into the proprietary MovieShop partition. This can tax your storage resources since the frames are effectively stored in two places at once.

NoahJi's is about to distribute several AReXX scripts that more or less

automatically import frames as LightWave renders them. I wrote two of them. One requires you to manually provide the information so that the script can find the rendered frames and process them. The other uses Eddy Carroll's SnoopDos program (available on most BBSs).

SnoopDos monitors various system calls including the writing of files. The list that SnoopDos creates can be saved to an ASCII file. My script essentially scans this file until it sees LightWave writing to a file—presumably a rendered image. It then imports the file into MovieShop, deletes the original file, and then resets the SnoopDos file. The script continues in an endless loop until you tell it to stop.

The cool thing about the latter script is it doesn't matter where LightWave saves the frames or what they are called, the script will always find them. Plus I don't have to give it any information. This allows me to run it directly from the MovieShop macros list.

The only real tricky thing about my scripts is that they

renders a single frame, stops, and then imports it. This way LightWave is never rendering at the same time you are trying to import a frame. You have to manually provide all of the pertinent information.

If you are mildly skilled at writing AReXX scripts, you should be able to write one based on what I've told you. However, if you are interested in obtaining any of the scripts I've described, contact NoahJi's. I don't know what the cost will be, but I'm sure it will be reasonable and most likely include many other things like new effects operators.

RAM Requirements

It is very important to note that although the above scripts drastically reduce your hard disk storage requirements, it requires a lot of RAM to run MovieShop and LightWave simultaneously. Minimizing your MovieShop buffer settings can help lessen RAM usage. You could then save the scene as a file and load it back into a project with your buffer settings restored.

If you don't have the RAM to spare, you won't be able to take advantage of these scripts. However, using something like PEGGER (DKB) to automatically compress the rendered frames will minimize the storage requirements. You could also render "fields" from LightWave, automatically JPEG them with PEGGER in the background, and later import these directly into MovieShop. Another option is to break the process up into segments, so you render some frames, import them, and then delete the original files.

Wrap Up

Well, needless to say, I am having a blast playing with VLab Motion. There are other Amiga products out there with higher quality output, but they also carry a higher price tag and aren't as versatile. Think about it: a non-linear digital video editing system, animation recorder, built-in TBC, real-time video digitizer, and 16-bit audio for under \$1,900 (street). Do the math—you just can't do it for less.

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Listings

MS_9PIP.rexx

```

/*
** MS_9PIP.rexx
**
** $VER: MS_9PIP.rexx 1.0.0 (04.20.95)
**
** This script takes a single scene and divides it
** into pieces of a specified length. Use it to build
** a 3 x 3 PIP.
**
** The QuickScale operators should be set to 33%.
** Set the Compose operators to Top-Left and
** Start=End. Adjust the Horizontal, Vertical sliders
** for the 9 Compose operators as follows:
**
** 66,66
** 33,66
** 0,66
** 66,33
** 33,33
** 0,33
** 66,0
** 33,0
** 0,0
**
** Turn 'Operator Window' mode off in Time Line menu.
**
** Written by Douglas J. Nakahihara
**/

/*****INPUT VARIABLES BEGIN*****/
/* Scene name */
SceneIs = 'MicroTimes'

/* Time Line start time */
StartTime = '006.00:00'

/* First frame in scene to use */
FrameFirst = 1

```

```

/* Length of scene to add to Time Line */
SceneLen = 150

```

```

/* Number of PIPs. Must be <= 9 */
Times = 9
/*****INPUT VARIABLES END*****/

```

```

Address MOVIESHOP
Options Results
Options failat 21
Safetylevel medium

GoToScene 'Temp'
If RC = 0 then do
    DeleteScene 'Temp'
End

Trackis = -1
NumberToTime SceneLen
SceneLen2 = result
Counter = 1
Do while Counter <= Times
    GoToScene SceneIs
    GoToFrame number FrameFirst
    Block mark
    A = FrameFirst + SceneLen - 1
    GoToFrame number A
    Block copy
    NewScene 'Temp'
    Block Paste
    Trackis = Trackis + 1
    SceneToTimeLine 'Temp' time StartTime track Trackis
    Trackis = Trackis + 1
    EffectToTimeLine 'QuickScale' time StartTime track Trackis
length SceneLen2
    DeleteScene 'Temp'
    FrameFirst = FrameFirst + SceneLen
    Counter = Counter + 1
End

Trackis = Trackis + 1
EffectToTimeLine 'Background' time StartTime track Trackis length
SceneLen2

Counter = 1
Do while Counter <= Times
    Trackis = Trackis + 1
    EffectToTimeLine 'Compose' time StartTime track Trackis length

```


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SceneLen2

Counter = Counter + 1

End

MS_SlowMotion.rexx

```
/*
** MS_SlowMotion.rexx
**
** $VER: MS_SlowMotion.rexx 1.0.0 (04.28.95)
**
** This script creates a slow-motion version of the
** defined scene by playing each frame twice. The new
** scene is called "SloMo".
**
** The script will ask you what the name of the scene
** to slow down is.
**
** Written by Douglas J. Nakakihara
**
*/

Address MOVIESHOP
Options Results
Options FailAt 11

Say 'What is the scene name to slow down?'
Pull Scene_orig

/*
** Create the new SloMo scene. Terminate if it already
** exists.
**
*/

GetSceneNumber 'SloMo'
If RC == 0 then do
    NewScene 'SloMo'
End
Else do
    Say 'A scene named SloMo already exists.'
    DisplayBeep
    Exit
End

/*
** Get the length of the original scene.
**
*/

GetFrameNumber Scene_orig
Scene_len = Result
```

```
/*
** Set Import & Export options
**
*/

ExportPicType fields
ExportExtension default
ExportMethod rawjpeg
ImportPicType fields
ImportMethod rawjpeg
Safetylevel medium

/*
** Paste each frame to SloMo scene twice.
**
*/

Do N = 1 to Scene_len
    GoToScene Scene_orig
    GoToFrame number N
    Block mark
    Block copy

    Exportblock 'ram:MSFrame'

    GoToScene 'SloMo'
    GoToFrame last
    GoToFrame next

    ImportFrame 'ram:MSFrame.0001 upto ram:MSFrame.0002'
    ImportFrame 'ram:MSFrame.0001 upto ram:MSFrame.0002'
    Address command 'delete >nil: ram:MSFrame.0001'
    Address command 'delete >nil: ram:MSFrame.0002'
End
```

•AC•

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Revitalizing the X-Specs 3D Stereoscopic Glasses

by Randy Finch

The dark glasses consisted of LCD lenses that could be darkened and lightened very quickly via software and looked like a low-tech version of the virtual reality glasses that are in vogue today.

Many years ago a very interesting, very powerful, yet very inexpensive (about \$100) piece of hardware became available for the Amiga computer. It consisted of a small black box that plugged into the second mouse port and had two small holes that allowed two sets of dark space age-like glasses to be plugged in. One set of glasses was included in the package. The glasses attached via a headband (see Figure 1). This made it very nice for eyeglass wearers like me because they fit comfortably over eyeglasses. The dark glasses consisted of LCD lenses that could be darkened and lightened very quickly via software and looked like a low-tech version of the virtual reality glasses that are in vogue today. By allowing the left eye to see only a left-eye perspective of a scene and the right to see only a right-eye perspective via fast image switching, an illusion of 3D could be had from a single Amiga display. This piece of hardware was distributed by Haitex Resources, Inc. and was known as the X-Specs 3D Stereoscopic Glasses.

I first saw this amazing piece of hardware at the 1988 AmiExpo in Chicago. I sat down, placed the glasses over my head, and proceeded to view three-dimensional molecules and play a quick game of Space Spuds. Both of these programs were included with the glasses along with some demonstration and utility programs. It was a great bargain. Being a programmer, I was also interested to hear that a shared library was being written so

that any programmer could easily tap into the power of the X-Specs glasses. I purchased the glasses shortly after the show and never regretted it.

Although quite a number of software producers began to support the X-Specs glasses, they never seemed to gain the popularity I thought they deserved. For some time the glasses have been hard to find, but now I cannot find any dealer that carries them or even knows of anyone who does. However, I would guess that a reasonably priced set of used glasses can still be found. (For your information, I am not selling mine.) To illustrate just how little software has been written for the glasses, I searched the Gold Fish CD-ROM, which contains the first 1000 Fred Fish disks, for the word X-Specs and only turned up two references: LanderGame and RaiderGame. These are 3D games for the X-Specs glasses. Both are on Fish Disk 544.

Like the X-Specs glasses, it seems that the interest in 3D technology has always been an up and down phenomenon. In the early part of the century, the old wooden stereoscopes that consisted of two lenses that allowed each eye to see only one of two images on a black & white postcard became popular. Their popularity faded only to be revived years later when the ViewMaster became available. Although the ViewMaster is still available, it does not seem to be as popular as it was when I was a kid. Of course, 3D movies were the craze back

in the 50's. Now, 3D movies are rarely, if ever, made. I believe that it has something to do with having to wear funny glasses or look through some kind of binocular device. When 3D imaging becomes available for direct viewing just as we currently view a movie or a TV or a computer monitor, it may become popular and stay popular. Perhaps a more advanced kind of holography will provide the technology.

Programming the X-Specs 3D Glasses

As I was told at AmiExpo, a shared library was soon released so that even I could write programs for the X-Specs glasses. At the time, I was working on a 3D function plotting program that was a perfect candidate for adding X-Specs support. The library is named `xspecs.library`. Version 1.2 of this library consists of 36 functions. Although I program in C, the library can be used by any language that supports the standard Amiga shared libraries. Table 1 shows the names and brief descriptions of the functions available in the library. Several are available for allocating and deallocating Rastport and Viewport data structures for regular views, double-buffered views, and overscan views. Pen colors, the pen number, and the drawing mode can all be set. Lines, polygons, text, and even sprites can be drawn in three dimensional space.



Figure 1. Randy Finch in his X-specs 3D Glasses. The design allows eyeglass users to use prescription glasses with the unit.

Like the X-Specs glasses, it seems that the interest in 3D technology has always been an up and down phenomenon.

another header file. A message port is declared along with an array containing the 32 colors for the X-Specs screen. The RastPort and ViewPort structures for the X-Specs display are allocated with the XSpecsAllocView function. The NULL parameter indicates that a 32-color 320x200 screen should be created. Other screen resolutions can be allocated by passing a different parameter. The screen is displayed on the monitor with the XSpecsOn function, which returns the message port of the display. The MOUSEBUTTONS parameters indicates that only mouse button messages should be sent to this port. Next, the palette is filled by calling the XSpecsLoadRGB4 function.

Following the code further down, you will find a lot of calculations being made to set up for the actual plot. Eventually, another program function, CalcAndPlot3, is called. This function is shown near the beginning of Listing 3. It does the grunt work of calculating the three dimensional coordinates for the plot on the X-Specs display. The plot consists of a patchwork of four-sided polygons. After calculating the coordinates of the four corners of a polygon and calculating the color to use for it, three xspecs.library functions are called to accomplish the task. First, XSpecsSetAPen is called to set the appropriate color, XSpecsMove is called to move the pen to the appropriate starting point in three dimensional space, and XSpecsDraw is called three times to draw three sides of the four-sided polygon. The fourth side is drawn when an adjoining four-sided polygon is drawn. This saves a bit of plot time because the adjoining sides do not have to be drawn twice.

Near the end of the DrawGraph function is a WaitPort system function call. This call waits for a message to be received at win's message port before

Unfortunately, the compressed files that I downloaded containing the library did not have a C header file containing the #pragma statements and function prototypes needed by my program. However, the documentation had enough information in it for me to create a file definition (.fd) file (Listing 1). I used the fd2pragma program that was included with my SAS/C compiler to convert this .fd file to a C header file containing the #pragma statements. I then appended function prototypes. This file is shown in Listing 2. With this completed, I was ready to add X-Specs support to my program.

Listing 3 shows excerpts from my three dimensional function plotting program. An earlier version of this

program that does not have X-Specs support can be found on Fish Disk 440. It is named 3DPlot. The excerpts contain some code that I will not discuss since it is not relevant to the current discussion. I only left this code in the listing to provide a context for the X-Specs function calls.

Notice first that the header file XSpecsLib.h is #included near the beginning to make the #pragmas and function prototypes available. Also, an external Library structure pointer (it is opened in a different file) named XSpecsBase is declared.

When the user requests that an X-Specs plot be rendered, the DrawGraph function is called with a global variable, plot type, set equal to PLOTXSPECS, which is #defined in

closing the X-Specs display. The Window pointer named win points to a window created by the 3DPlot program. Why am I waiting for a message at this port rather than the one for the X-Specs display? I don't know. It turns out if you use the following statement,

WaitPort(uport); where uport is the message port returned by the XSpecsOn function, a message will be received properly for a press of the right mouse button, but the program will essentially freeze when the left mouse button is pressed. By using the statement,

WaitPort(win->UserPort); where win->UserPort is the message port of another window in the 3DPlot program not related to the X-Specs display, the left mouse button can be pressed without freezing the program. However, it takes a right button press after the left button press to cause a message to be received at win->UserPort. I have not yet determined why this works this way. If anyone has any ideas, please let me know.

Finally, the XSpecsOff function is called to close the X-Specs display, and XSpecsFreeView is called to deallocate the RastPort and ViewPort structures for the display.

In Closing

The X-Specs 3D glasses can be programmed easily using xspecs.library. The latest version of this library of which I am aware is 1.2. I have tried contacting Richard Horne, who was one of the people responsible for creating the library, to no avail. If anyone out there in reader-land knows of a later version, please write me care of this magazine or send me Email at RandyWrite@aol.com. Also, if you would like to have a copy of my 3DPlot program with X-Specs support along with the .fd and C header files discussed in this article, please let me know. I'll get a disk out to you. If anyone has written X-Specs applications and is willing to share them, please send me a disk. I would be interested in seeing them. In the mean time, all you Amiga programmers should pull out that compiler and get to work.

(Listings are continued on page 38)

Please Write to:
Randy Finch
 c/o Amazing Computing
 P.O. Box 2140
 Fall River, MA 02722-2140

Available Functions in XSpecs.library Version 1.2.

Function Name	Description
XSpecsAllocView	Allocate XSpecs memory and initialize Rastport and Viewport data structures.
XSpecsAllocViewDB	Allocate XSpecs memory and initialize Rastport and Viewport data structures for a double buffered XSpecs display.
XSpecsAllocViewOS	Allocate XSpecs memory and initialize Rastport and Viewport data structures with overscan.
XSpecsAllocViewOSDB	Allocate XSpecs memory and initialize Rastport and Viewport data structures for a double buffered XSpecs display with overscan.
XSpecsChangeSprite	Assign XSpecs simple sprite to left and right viewport. Change pixel definition of XSpecs simple sprite.
XSpecsDraw	Draw a line in XSpecs three dimensional coordinates.
XSpecsErrorCheckOff	Cancel error checking for screen boundaries.
XSpecsErrorCheckOn	Turn on error checking for drawing outside screen boundaries.
XSpecsFreeSprite	Free simple sprite from XSpecs use.
XSpecsFreeView	Free memory associated with XSpecs View.
XSpecsGetSprite	Assign a simple sprite for XSpecs use.
XSpecsLeftRastPort	Return XSpecs left Rastport address.
XSpecsLeftViewPort	Return XSpecs left Viewport address.
XSpecsLeftXY	Convert XSpecs three dimensional coordinates to left rastport coordinates.
XSpecsLoadRGB4	Load color data into XSpecs left and right Viewports.
XSpecsMove	Move graphics pen in the XSpecs three dimensional coordinate system.
XSpecsMoveSprite	Move sprite in the XSpecs three dimensional coordinate system.
XSpecsOff	Turn off XSpecs lens switching.
XSpecsOn	Turn on XSpecs lens switching.
XSpecsOpA	Specify that XSpecs functions should operate on Rastport A of a double buffered XSpecs display.
XSpecsOpB	Specify that XSpecs functions should operate on Rastport B of a double buffered XSpecs display.
XSpecsPolyDraw	Draw a sequence of lines in the XSpecs three dimensional coordinate system.
XSpecsRightRastPort	Find XSpecs right Rastport address.
XSpecsRightViewPort	Find XSpecs right Viewport address.
XSpecsRightXY	Convert XSpecs three dimensional coordinates to right rastport coordinates.
XSpecsSetAPen	Set the color register for APen in XSpecs left and right rastports.
XSpecsSetD	Set distance from eye to screen.
XSpecsSetE	Set eye separation.
XSpecsSetDrMd	Set the draw mode for XSpecs left and right rastports.
XSpecsSetRGB4	Set RGB values for a color register in XSpecs left and right viewports.
XSpecsSetTime	Set time to a certain value.
XSpecsShowA	Show rastport A of a double buffered XSpecs display.
XSpecsShowB	Show rastport B of a double buffered XSpecs display.
XSpecsText	Write text at XSpecs coordinates (x, y, z).
XSpecsTime	Get time in 1/60th of second intervals.
XSpecsWritePixel	Draw a pixel in XSpecs three dimensional coordinates.

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ASI 207 - SENSIBLE MASSACRE, SPITFIRE ASSAULT, SLIDEIT 2
ASI 208 - KNIGHTS, PUZZLE, PSYCHO ASSAULT
ASI 209 - TRICK OR TREAT, SPACETAXI, VECTOR TANK BATTLE
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ASI 217 - MANGLED FENDERS, DUAL MACE, CUBIK
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ASI 225 - STEEL DEVILS, XENOSTAR, BACKGAMMON
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version
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GAM 320 - SKIDMARKS 2 Playable Demo! AGA
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GAM 327 - C= A, The Game, better than average SEUCK game based on the AMIGA shooting Macs, etc.
GAM 328 - BANSHEE Demo - AGA only Playable demo of this excellent arcade 194Z clone. PAL, works NTSC.
397ABCD - Klondike AGA III, New 4 Disk update to this incredible game. WE HAVE OVER 20 CARDSSETS FOR THIS GAME, CALL AND ASK!
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3487 POWER BATTLE, This is a SUPERB 2 player shoot'em up.
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Listings

Listing 1. XSpecsLib.f.d

```
##base_XSpecsBase
##bias 30
##public
XSpecsAllocView(ViewModes) (d0)
XSpecsFreeView() ()
XSpecsOn(IDCMPFlags) (d0)
XSpecsOff() ()
XSpecsSetAPen(PenNumber) (d0)
XSpecsSetRGB4(PenNumber,R,G,B) (d0/d1/d2/d3)
XSpecsLoadRGB4(ColorData,Count) (a0,d0)
XSpecsText(Text,x,y,z,Count) (a0,d0/d1/d2/d3)
XSpecsWritePixel(x,y,z) (d0/d1/d2)
XSpecsDraw(x,y,z) (d0/d1/d2)
XSpecsChangeSprite(SpriteImage,SpriteNumber) (a0,d0)
XSpecsMoveSprite(x,y,z,xoffset,yoffset,SprNum) (d0/d1/d2/d3/d4/d5)
XSpecsLeftXY(x,y,z) (d0/d1/d2)
XSpecsRightXY(x,y,z) (d0/d1/d2)
XSpecsLeftRastPort() ()
XSpecsRightRastPort() ()
XSpecsLeftViewPort() ()
XSpecsRightViewPort() ()
XSpecsSetDrMd(DrawMode) (d0)
XSpecsPolyDraw(Points,Count) (a0,d0)
XSpecsMove(x,y,z) (d0/d1/d2)
XSpecsGetSprite(SimpleSpr,SprImage,SprNum) (a0/a1,d0)
XSpecsFreeSprite(SpriteNumber) (d0)
XSpecsTime() ()
XSpecsAllocViewOS(ViewModes) (d0)
XSpecsErrorCheckOff() ()
XSpecsErrorCheckOn() ()
XSpecsSetTime(DesiredTime) (d0)
XSpecsOpA() ()
XSpecsOpB() ()
XSpecsAllocViewDB(ViewModes) (d0)
XSpecsAllocViewOSDB(ViewModes) (d0)
XSpecsShowA() ()
XSpecsShowB() ()
XSpecsSetD(EyeDist) (d0)
XSpecsSetE(HalfDist) (d0)
##end
```

Listing 2. XSpecsLib.h

```
/* XSpecsLib.h */

/* Include file for xspecs.library */

/* Pragmas */
#pragma libcall XSpecsBase XSpecsAllocView 1E 001
#pragma libcall XSpecsBase XSpecsFreeView 24 0
#pragma libcall XSpecsBase XSpecsOn 2A 001
#pragma libcall XSpecsBase XSpecsOff 30 0
#pragma libcall XSpecsBase XSpecsSetAPen 36 001
#pragma libcall XSpecsBase XSpecsSetRGB4 3C 321004
#pragma libcall XSpecsBase XSpecsLoadRGB4 42 0802
#pragma libcall XSpecsBase XSpecsText 48 3210805
#pragma libcall XSpecsBase XSpecsWritePixel 4E 21003
#pragma libcall XSpecsBase XSpecsDraw 54 21003
#pragma libcall XSpecsBase XSpecsChangeSprite 5A 0802
#pragma libcall XSpecsBase XSpecsMoveSprite 60 54321006
#pragma libcall XSpecsBase XSpecsLeftXY 66 21003
#pragma libcall XSpecsBase XSpecsRightXY 6C 21003
#pragma libcall XSpecsBase XSpecsLeftRastPort 72 0
#pragma libcall XSpecsBase XSpecsRightRastPort 78 0
#pragma libcall XSpecsBase XSpecsLeftViewPort 7E 0
#pragma libcall XSpecsBase XSpecsRightViewPort 84 0
#pragma libcall XSpecsBase XSpecsSetDrMd 8A 001
#pragma libcall XSpecsBase XSpecsPolyDraw 90 0802
#pragma libcall XSpecsBase XSpecsMove 96 21003
#pragma libcall XSpecsBase XSpecsGetSprite 9C 09803
#pragma libcall XSpecsBase XSpecsFreeSprite A2 001
#pragma libcall XSpecsBase XSpecsTime A8 0
#pragma libcall XSpecsBase XSpecsAllocViewOS AE 001
#pragma libcall XSpecsBase XSpecsErrorCheckOff B4 0
#pragma libcall XSpecsBase XSpecsErrorCheckOn BA 0
#pragma libcall XSpecsBase XSpecsSetTime C0 001
#pragma libcall XSpecsBase XSpecsOpA C6 0
#pragma libcall XSpecsBase XSpecsOpB CC 0
#pragma libcall XSpecsBase XSpecsAllocViewDB D2 001
#pragma libcall XSpecsBase XSpecsAllocViewOSDB D8 001
#pragma libcall XSpecsBase XSpecsShowA DE 0
#pragma libcall XSpecsBase XSpecsShowB E4 0
```

```
#pragma libcall XSpecsBase XSpecsSetD EA 001
#pragma libcall XSpecsBase XSpecsSetE FO 001

/* Prototypes */
extern LONG XSpecsAllocView (ULONG);
extern LONG XSpecsAllocViewDB (ULONG);
extern LONG XSpecsAllocViewOS (ULONG);
extern LONG XSpecsAllocViewOSDB (ULONG);
extern LONG XSpecsChangeSprite (struct Image *, LONG);
extern LONG XSpecsDraw (WORD, WORD, WORD);
extern VOID XSpecsErrorCheckOff (VOID);
extern VOID XSpecsErrorCheckOn (VOID);
extern VOID XSpecsFreeSprite (LONG);
extern VOID XSpecsFreeView(VOID);
extern LONG XSpecsGetSprite (struct SimpleSprite *, struct Image *, LONG);
extern struct RastPort *XSpecsLeftRastPort (VOID);
extern struct ViewPort *XSpecsLeftViewPort (VOID);
extern LONG XSpecsLeftXY (WORD, WORD, WORD);
extern VOID XSpecsLoadRGB4 (APTR, LONG);
extern LONG XSpecsMove (WORD, WORD, WORD);
extern LONG XSpecsMoveSprite (WORD, WORD, WORD, LONG, LONG, LONG);
extern VOID XSpecsOff (VOID);
extern struct MapPort *XSpecsOn (ULONG);
extern VOID XSpecsOpA (VOID);
extern VOID XSpecsOpB (VOID);
extern LONG XSpecsPolyDraw (WORD *, LONG);
extern struct RastPort *XSpecsRightRastPort (VOID);
extern struct ViewPort *XSpecsRightViewPort (VOID);
extern LONG XSpecsRightXY (WORD, WORD, WORD);
extern VOID XSpecsSetAPen (LONG);
extern VOID XSpecsSetD (WORD);
extern VOID XSpecsSetE (WORD);
extern VOID XSpecsSetDrMd (LONG);
extern VOID XSpecsSetRGB4 (LONG, LONG, LONG, LONG);
extern VOID XSpecsSetTime (LONG);
extern VOID XSpecsShowA (VOID);
extern VOID XSpecsShowB (VOID);
extern LONG XSpecsText (STRPTR, WORD, WORD, WORD, LONG);
extern LONG XSpecsTime (VOID);
extern LONG XSpecsWritePixel (WORD, WORD, WORD);
```

Listing 3. Excerpts From a 3D Function Plotting Program Using the X-Specs 3D Glasses

```
/*----- INCLUDE FILES -----*/

#include "hdr/common.h"
#include "hdr/XSpecsLib.h"

/*----- External Variables -----*/

extern struct GfxBase *GfxBase;
extern struct Library *XSpecsBase;
extern struct Window *win;
extern struct RastPort *rastport;
extern struct ViewPort *viewport;
extern AllPlotData *apd;

extern DOUBLE Evaluate(DOUBLE, DOUBLE);

/*----- CalcAndPlot3 Function -----*/

static VOID CalcAndPlot3(DOUBLE x1, DOUBLE y1, BOOL flag)
{
    static LONG pennum;
    static DOUBLE x2, y2, z1;

    /* Assign last 2 points to first 2 points */
    xp1 = xp4;
    xp2 = xp3;
    yp1 = yp4;
    yp2 = yp3;
    zp1 = zp4;
    zp2 = zp3;

    x2 = x1 + xspc; /* used if flag = FALSE, plot along Y-axis */
    y2 = y1 + yspc; /* used if flag = TRUE, plot along X-axis */

    if(flag)
        Calculate2(x1, y2, calc(x1, y2));
    else
        Calculate2(x2, y1, calc(x2, y1));
}
```



```

xp3 = xp;
yp3 = yp;
zp3 = zp;

z1 = calc(x1, y1);

Calculate2(x1, y1, z1);
xp4 = xp;
yp4 = yp;
zp4 = zp;

dtoplane = zcalc(x1, y1, z1);
pennum = (LONG)((dtoplane - dmin)/colorspread) + pennumbase;
if (pennum > pennummax) pennum = pennummax;
if (pennum < pennumbase) pennum = pennumbase;

XSpecsSetAPen(pennum);
XSpecsMove(xp1, yp1, zp1);
XSpecsDraw(xp2, yp2, zp2);
XSpecsDraw(xp3, yp3, zp3);
XSpecsDraw(xp4, yp4, zp4);

} /* CalcAndPlot3 */

/*----- DrawGraph Function -----*/

VOID DrawGraph(VOID)
{
    struct IntuiMessage *message;
    DOUBLE calcspacex, calcspacey, calcincx, calcincy,
    tx, ty, tz,
    yminend, ymaxend, ybeginspc,
    xminend, xmaxend, xbeginspc,
    zradians, yradians, xradians;
    BOOL
    alongxflag,
    alongyflag;

    /* Set-up code is here; not shown */

    /* PLOT THE GRAPH */


    switch(plottype) {


        case PLOTXSPEC:
            { /* block begin */
                struct MsgPort *uport; /* user port of XSpecs windows */
                UWORD colorarray32[] = {
                    0x000, 0xF00, 0xD00, 0xB00, 0x007, 0x008, 0x009, 0x00A,
                    0x00B, 0x00C, 0x00D, 0x00E, 0x00F, 0x11F, 0x22F, 0x33F,
                    0x44F, 0x55F, 0x66F, 0x77F, 0x88F, 0x99F, 0xA0F, 0xBBF,
                    0xCCF, 0xDDF, 0xEEF, 0xFFF, 0x006, 0x005, 0x004, 0x002
                };

                if (XSpecsAllocView(NULL) != 0) goto EndDrawGraph;
                if (!uport = (struct MsgPort *) XSpecsOn(MOUSEBUTTONS)) {
                    XSpecsFreeView(); /* Free up view */
                    goto EndDrawGraph;
                } /* if */
                XSpecsLoadRGB4(colorarray32, 32);

                if(alongxflag) { /* Plot along X-axis */
                    yminend = apd->dd.PlotYmin;
                    ymaxend = apd->dd.PlotYmax;
                    /* Prevent going one yspc to far at end of plot */
                    if(ybegin < yend)
                        ymaxend = apd->dd.PlotYmax - yspc;
                    else
                        yminend = apd->dd.PlotYmin - yspc;
                    for(ty = ybegin ; (ty <= ymaxend) && (ty >= yminend) ; ty +=
yspc) {
                        /* Check for Stop Plot from user */
                        if(message = (struct IntuiMessage *) GetMsg(win->UserPort))
                        {
                            goto EndXSpecsPlot;
                        } /* if */
                        /* Initialize starting plot points */
                        ybeginspc = ty + yspc;
                        Calculate2(xbegin, ty, calc(xbegin, ty));
                        xp4 = xp;
                        yp4 = yp;
                        zp4 = zp;
                        Calculate2(xbegin, ybeginspc, calc(xbegin, ybeginspc));
                        xp3 = xp;
                        yp3 = yp;
                        zp3 = zp;
                        /* Plot along X-axis */
                        for(tx = xbegin + xspc ; (tx <= apd->dd.PlotXmax) && (tx >=
apd->dd.PlotXmin) ; tx += xspc)
                            CalcAndPlot3(tx, ty, alongxflag);
                    } /* for */
                } /* if */
            } else { /* Plot along Y-axis */
                xminend = apd->dd.PlotXmin;
                xmaxend = apd->dd.PlotXmax;
            }
        }
    }
}

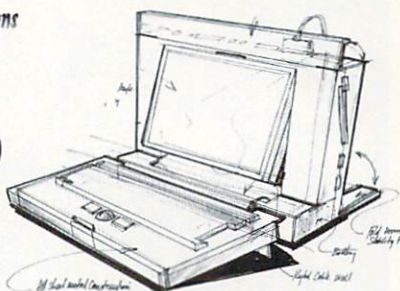
```





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```

/* Prevent going one xspc to far at end of plot */
if(xbegin < xend)
    xmaxend = apd->dd.PlotXmax - xspc;
else
    xminend = apd->dd.PlotXmin - xspc;
for(tx = xbegin ; (tx <= xmaxend) && (tx >= xminend) ; tx +=
xspc) {
    /* Check for Stop Plot from user */
    if(message = (struct IntuiMessage *) GetMsg(win->UserPort))
    {
        goto EndXSpecsPlot;
    } /* if */
    /* Initialize starting plot points */
    xbeginspc = tx + xspc;
    Calculate2(tx, ybegin, calc(tx, ybegin));
    xp4 = xp;
    yp4 = yp;
    zp4 = zp;
    Calculate2(xbeginspc, ybegin, calc(xbeginspc, ybegin));
    xp3 = xp;
    yp3 = yp;
    zp3 = zp;
    /* Plot along X-axis */
    for(ty = ybegin + yspc ; (ty <= apd->dd.PlotYmax) && (ty >=
apd->dd.PlotYmin) ; ty += yspc)
        CalcAndPlot3(tx, ty, alongxflag);
    } /* for */
} /* else */
WaitPort(win->UserPort); /* Wait for user mouse click */
} /* Block end */

EndXSpecsPlot:
    XSpecsOff(); /* Turn 'um off */
    XSpecsFreeView(); /* Free up view */
    break;

default:
    break;
} /* switch */

```

•AC•

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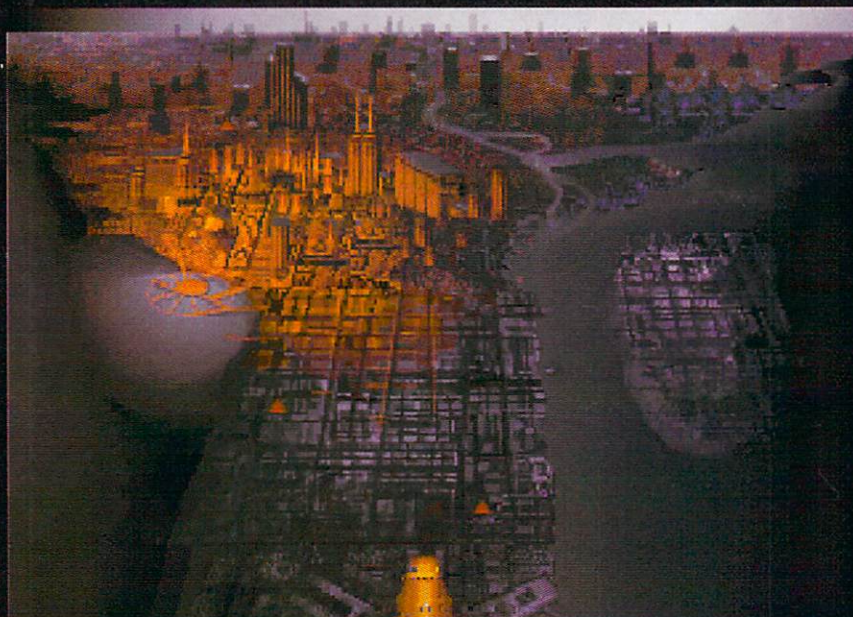
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BloodNet

reviewed by Rob Hays

The Night is special, Don't be caught just hanging around.

Most people would agree, whether or not it is correct, with the characterization of the streets of Manhattan as mean and today's street punks have nothing on those of 2094, according to this new game from Gametek distributed by MicroProse.

A century from now, all access to information is controlled by a huge corporation called TransTechnicals. This outfit is like the phone company, an international bank, a giant software company, and the CIA all rolled into one. And they don't exactly favor individualism, or have your best interests at heart.

The world of BloodNet is not just the streets of Manhattan, but also Cyberspace. Created by TransTechnicals to allow the direct interfacing with and manipulation of data by humans, the technology of Cyberspace has been adopted by the underground. If you think stopping a hacker working over a phone modem is hard, imagine if thoughts were deeds. With the right hardware, a person can "surf the net" just by thinking of their destination. However, this direct link can also cause problems.

The character you play is Ransom Stark, who used to work for The Company spending a lot of time in Cyberspace. This led to him developing a condition which makes it difficult to distinguish between the real and the virtual worlds. Fired by his employers, he was rescued from the streets by a

brilliant inventor, who inserted a neural implant which restored his sanity. This inventor has also developed a program which will grant ultimate power in Cyberspace.

Did I mention the vampires? Genetic manipulation run amok has created real-life vampires. Stark is bitten by one at the start of the game, and only the neural implant saves him from becoming a vampire too. He is infected however, and must get fresh blood occasionally.

The adventure begins in the ransacked laboratory of his inventor friend who has been murdered. As he travels about Manhattan, Stark must persuade, or pay, others to join him as he attempts to not only solve a murder, but also free Mankind from the TransTech tyranny and prevent the vampires from taking over.

The characters you encounter all have distinct personalities, as well as their own agendas. Once you have recruited your chosen assistants, they won't hesitate to offer advice and clues without waiting for you to question them. Like most adventure games, the success or failure of Ransom Stark in a given situation is determined by a set of characteristics fixed before the game starts. When generating a new character, you can choose to accept a random assignment of these characteristics, or go through a question and answer session that will generate a character based on your responses.

The mouse is used exclusively for

character actions and control. Place the pointer and hold down the left button, and Stark will move to that spot. Click on an object, and he picks it up, making it available for examination or use. Moving the pointer to the top of the screen activates a button-bar with menus allowing you to take care of tasks such as moving to another location, check Starks portable computer for info, game options, and more.

Movement from locale to locale within Manhattan is via subway. Activate the map from the button bar menu, and you are presented with a vertically scrolling picture of the island of Manhattan. Subway stops are marked with red triangles, and clicking on one of these will bring up a list of available locations at that stop. Select a location, and away you go.

Many character-intensive adventure games bog down in two areas; character interactions and combat. Either the game over-simplifies one or both of these facets, or overwhelms the casual player with mountains of data. BloodNet manages to walk the fine line of balance with both activities. As previously mentioned, characters within your group speak any time they feel the need. Interaction with non-playing characters consists of dialogue boxes popping up next to pictures of the NPC, and Stark's responses next to the picture you have chosen for yourself. These conversations are set speeches for the most part, with an

occasional pause for a yes or no response from you.

Combat sequences can be handled two different ways, depending on your personal preference. If you are more interested in the problem-solving aspects of the game, a quick combat mode lets the computer handle all combat duties. On the other hand, the descriptive combat mode allows you to position and move your group's characters. You are given complete details on combat activities as they happen, and you can give your fighters combat directions.

The game graphics consist of static backgrounds that are nicely drawn, with muted colors and lots of detail. Overlaid on these backgrounds, the characters and the objects available for them to manipulate, appear almost garish and out of place. In many instances characters even appear to be sized incorrectly for their environment.

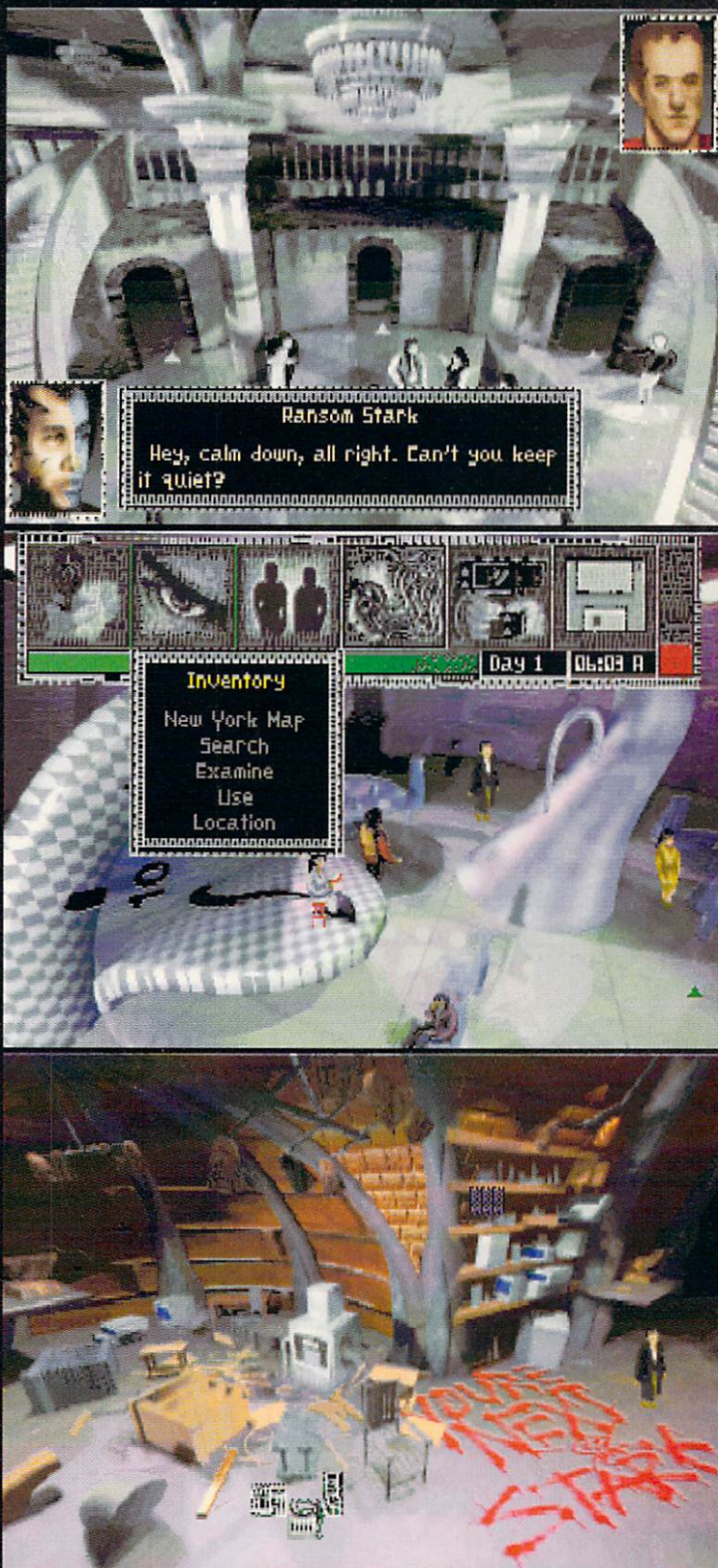
Musical themes change with the scenes, and are typical British techno-pop style. They can be toggled off any time you decide you have had enough.

I ran into a couple of problems with BloodNet, one of which relates to saving games. If you select the save game function while Stark is holding an object, everything will appear to proceed normally. If you later try to load a game saved under these conditions, an error message about a missing graphics file is displayed, and the game aborts. Any games saved without Stark holding an object will load and run properly.

My other problem relates to screen modes. Since the game requires an AGA system, you would think the programmers would take into account not everyone would be running the original 640 by 200 screen resolution. If you start the game and find it squashed into the top third of your monitor, try the following. Using the ScreenMode editor within Prefs, use the Save As choice under the Project menu to save an icon with your usual ScreenMode in your BloodNet drawer. Give it a name like "End" or "Regular." Now select a ScreenMode like NTSC:High Res, and this time Save As "Game," again in the BloodNet drawer. Now you can double click these icons to change your ScreenMode to one the game likes, and back to one you like.

BloodNet is a huge game, coming on 12 floppies, and while you can play it without a hard drive, only a masochist would call it enjoyable. Simply starting the game requires almost endless shuffling between nearly all 12 disks. However, if you have 9 megabytes of space on your hard drive, the Installer script will set things up flawlessly on the partition of your choice. Other hardware requirements include 1.5 megabytes of free RAM.

BloodNet multitasks, is not copy protected, and carries a rating of 18. This means it contains

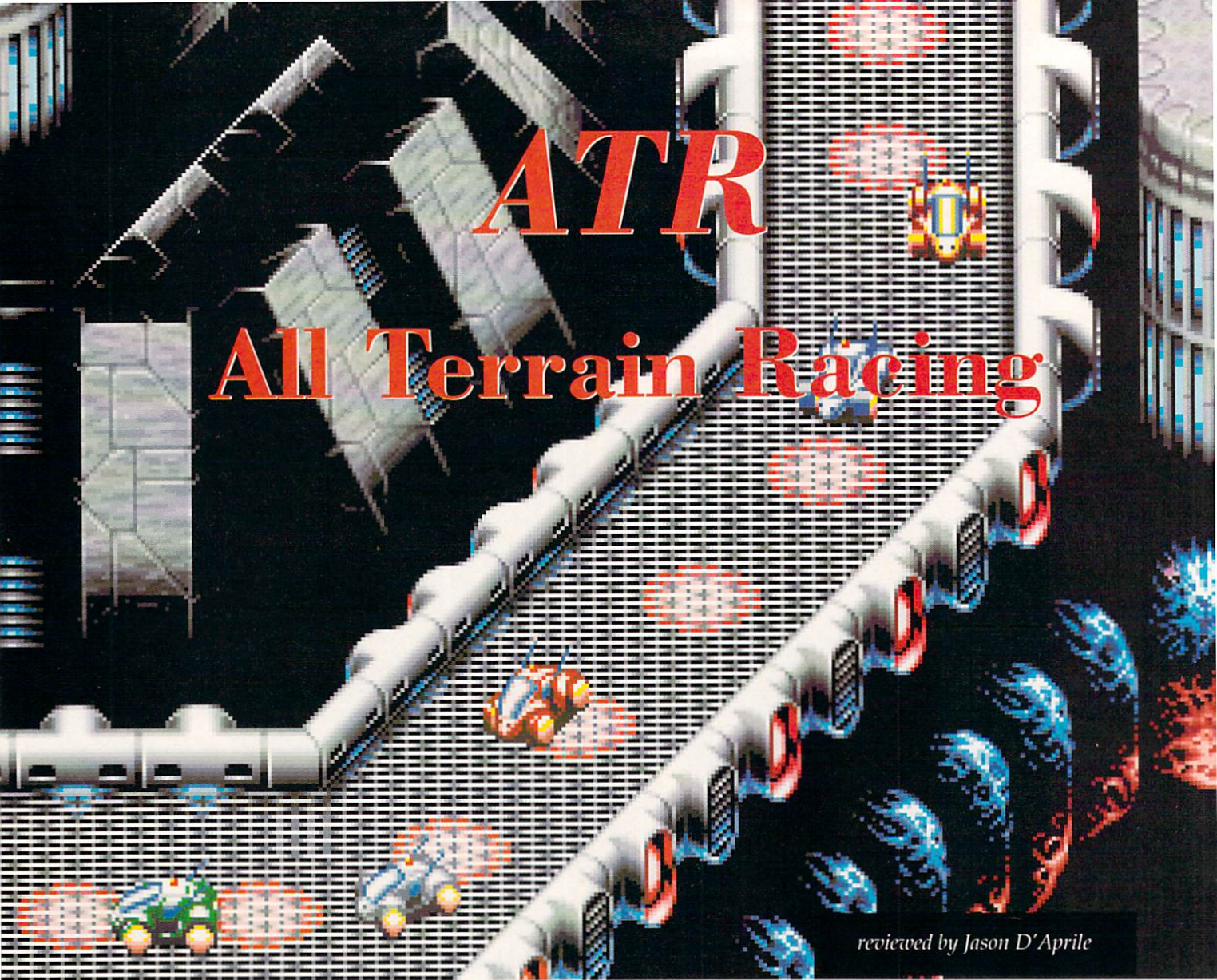


BloodNet mixes standard interfaces with very dynamic graphics.

mature themes and language, and is not intended for children under the age of 18.

If the thought of duking it out with vampires, punks, and evil monopolies causes your breath to quicken, log onto BloodNet.

•AC•



reviewed by Jason D'Aprile

In what is essentially a follow-up to their previously released overhead, small sprite racing game, *Overdrive*, Team 17 has brought out *ATR*. *ATR*, or All Terrain Racing, is an overhead, small sprite racer with a sci-fi bent to it. Unlike *Overdrive*, which was a strictly top down, overhead perspective, *ATR*'s viewpoint is more isometric, giving it a 3 dimensional look.

Like others of this genre, *ATR* feels much more like you are playing with radio controlled cars than actual, realistic racers. The small sprite, 32 color graphics and varied scenery give everything a miniature, model toy-like look and feel. The graphics are done very well, although I found *Overdrive* to have a smoother, more polished look to it overall. Appropriate sound effects and music accompany every-

thing and while the game sounds good, neither the effects nor the music particularly stand out.

There are three different course settings at the beginning of the game including, Sports, Canyon, and Alpine Forests. Each setting has many different tracks to race through, giving the game plenty of diversity. There is also a two player option, where you and a friend can go one-on-one for points. On the tracks, you'll find several different kinds of icons that can power-up your car or give you bonus items. Off the track, you'll have the option to upgrade your vehicle with new and better equipment.

ATR also offers three different vehicles to choose from: the 4x4 Jeep, the Hydra Buggy, and the Formula Special. Each car has different han-

dling characteristics and responds differently to each track, so choose carefully. The Jeep and buggy are better for beginners, for instance, and the formula racer is for those who really have a feel for the road.

Despite the sci-fi atmosphere and the appearance of missiles and landmines in the 2 player mode, *ATR* is not a combat orientated racing game. You really can't destroy the other vehicles and missiles and mines only appear in 2 player mode-which is extremely unfortunate. Still, the action is pretty constant in *ATR* and you can bump and crash yourself and your opponents into the scenery, even if it doesn't do all that much good.

Control takes some getting used to. The unusual overhead perspective makes this style of racer different, so

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don't expect to master the game in one sitting. Tough CPU competition, and wild twists and turns are rampant in the game, making the learning curve a little steep. Control is good, however, even though it will require a lot of skill to drive your way to first place.

On the downside, it is a shame that the 2 player options (like speed, weapons, and obstacle cones selec-

ATR feels much more like you are playing with radio controlled cars than actual, realistic racers.



All Terrain means **ALL TERRAIN** as you race through a variety of obstacles.

tion) are not available in the standard one player mode. And, even on the fast speed in 2 player mode, ATR is still no speed demon. ATR's less than frantic pace certainly gives you more time to react, but it could do with an overall turbo boost just the same, if only as an option. You will also find that once you are behind, it can be extremely difficult to gain ground again and you will really have to rely on the power-up icons scattered about the road to do it.

Overall, ATR is a solid example of the genre. It is a lot of fun to play and bears the usual Team 17 trademarks of quality for graphics, sounds, and control. Also, like virtually all Team17 releases, it is in PAL mode and for some reason it will not utilize my second drive. There is also no option for hard drive installation. The control layout is rather inconvenient as well in

that pressing the red (gas) and blue (brake) buttons at the same time automatically quits the game.

ATR will run on any Amiga, AGA or not, and there is a CD-32 version out, as well. However, the CD-32 version has virtually no enhancements at all.

•AC•

(continued from page 48)

C64 which is very old. The C64 is a product which we want to produce for the Russian market and the Eastern market, India and other places with a low income, where people want a low cost machine to start in the computer field. We don't consider the C64 an old machine, it is a machine to make computer technology popular in those areas. We want to sell those in those areas through companies who would license it and manufacture it themselves. This would be a starting point for us to get into those marketplaces where we are not represented with a potential to build up a trademark and brand name.

AC: Yes, but even the C64 would need to be upgraded to current standards, such as the 3.5" disk drives as 5.25" disks are impossible to find.

Escom: I think it would be a C64 as is because these are markets where no one can afford to buy some of these things but can only afford to buy something to connect to the television. We have a huge demand from these markets, especially from the Russian marketplace. But it is not the key and we will not

"We are looking at our
production of the A4000 for
this year to be around
25,000, about 150,000
A1200s and 50-60,000 CD32s
by the end of the year..."

overestimate this from a strategic point of view but it would be a nice thing to have.

As far as Commodore itself, we will establish a Commodore International in The Netherlands which will be doing more or less PCs. We want to go with the Commodore name only on the PC side not on the Amiga side. We want to separate Commodore and Amiga because we want to push the Amiga very strong because of its technology and keep Commodore as a separate brand name.

Commodore itself we want to use to make multimedia machines and accessories under the Commodore brand name which will go to the mass merchandiser, department stores maybe with a similar philosophy as Packard Bell which is typically not technology oriented but based on inter-technology. We want to generate turnover and we have manufacturing in place so we've come out with a new design and we will come out later on this year with only one PC with the Commodore brand name integrated to television, the PC, the telephone answering machine, loudspeaker, and remote control. It will be a multimedia machine with the Commodore name. We expect to begin shipment around the first of August.

AC: Is that worldwide shipment?

Escom: At this time, we are talking with some potential people in the US as well as potential companies who want to go into

the Far East. These discussions are ongoing discussions.

The Amiga is our heart, it is what we like, here is a potential technology which in our point of view was greatly underestimated. So we will invest and we will do a lot to make new Amiga technology for the future. We will start with existing machines when we start this thing running with the A1200, A4000, and with the CD32. These three items we will produce as fast as possible.

For the first step, we don't think we will have to modify it, otherwise it takes too long to get the machine back to the market if we start to modify it. Then it could be another year gone and still no product in the market. The key is to start shipments within the next three months to four months so that we have something in the marketplace by September. We are under a very tight time frame. We have a lot to do in order to locate everything that is located worldwide, what does exist and find out who is producing what and when and how. We will use all of our power and we have a lot of power at Escom to do this.

Everybody is highly motivated to begin to get this thing running. We have formed Amiga Technologies GmbH which is located in Bensheim which is the headquarters. This will be our technology center for the future for Commodore Amiga. Here we want to get engineering people established, production people established, the purchasing people established, the marketing people established, the press people established, the support people established and the service people established but not the sales or distribution people yet. We want to get these employees ready within the next six weeks.

There will be 40-50 people working on the Amiga only and nothing else. Here we are talking with a lot of people who we want to hire right away. Also we want to talk to potential people who used to work for Commodore. We also would like to potentially hire and get back people to have a location in the US. We have signed a contract with Jeff Rank and George Robbins who are now working for us in Philadelphia. They can secure for us some existing technology because they know what is where. Ed Goff is our consultant who has been contracted by us to document all these things. He and the others are working in the US on this inventory thing and doing all the documentation.

Meanwhile we are building up our own operation. We have already hired some people and are talking with anyone who is interested and I think we will be able to get a wonderful team together very soon. There are already 3 or 4 people working on manufacturing and purchasing. So we have already started working so we can make the A1200, A4000 and CD32 ready as soon as possible.

We are looking at our production of the A4000 for this year to be around 25,000, about 150,000 A1200s and 50-60,000 CD32s by the end of the year beginning by September-October time frame. That is the first step.

The next step is to look for developments for the next generation Amiga 1200 and 4000s. This is in discussion today with some potential people concerning the best configuration for the Amiga technology. We are also talking with people concerning the manufacture of the set top boxes with Amiga technology. We will soon have television set top boxes under the Amiga brand name based on the technology of the CD32.



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We will also be having a press conference on May 30 which we would like to have you attend. At that time we will have a much more detailed discussion with the various Amiga magazines concerning the things we have discussed today and also how we can upgrade the magazines to the next generation of Amigas.

I would like to convince the magazines to write more about online services because I think that a lot of Amiga users are potential online users. Maybe we can have here a new philosophy on how we can position the Amiga in the marketplace as a leading edge in the market. We have here customers with a lot of knowledge from the Amiga side of the market which typically does not exist in the PC market.

AC: It sounds as if you have a lot of different things covered. When you look at the US market are you looking to have a separate development center here?

Escom: If there are some people in the US who used to work for Commodore and do not want to come to Germany, although I don't know why not it is very nice here, but if they would like to stay in the US we would like to find a solution as to how we could work with them whether it be on a contract base, or a home office base etc.

My intention is to get all the best people for the Commodore Amiga back as we do have a very exciting future and I am convinced that this technology will go forward. We have to get

to the next generation of technology. The quantum leap is to the 64 bit technology and the RISC technology so we need this team as otherwise we will have no future. Once I have these people in place I have a time frame of 2 or 3 years where we can maybe survive with existing technology but we must within a 15 month time frame bring new technology to the market.

AC: What is your view of the US market?

Escom: From my point of view of the US market, I want to talk with more people and get more of an overview before I make any comments about how we should proceed and with whom we should proceed in the US. We have never talked in the past without knowing things, so if I tell you something then we will do it. We did not talk in the past until everything was done and at this time I am not in a position to comment on how we will handle the US market. As I get more of an overview then I will decide.

AC: Our aim is to keep information flowing and you have been very gracious by saying that you would do an interview with us every month. We appreciate that as we know that you are very busy. We want to help you get information out.

Escom: We want to stay in contact and we can talk every four to five weeks, that is no problem for me.

•AC•

ESCOM Speaks!

On the morning of May 19, 1995, Amazing Computing was able to interview Manfred Schmitt by telephone. Mr. Schmitt is the founder and 51% shareholder of ESCOM AG of Germany. ESCOM has retail stores in 10 European countries, the owner of the biggest mail order house in Europe (Quelle), several manufacturing facilities, and, oh yes, the Amiga.

AC: Good Morning Mr. Schmitt. I know you are extremely busy trying not only to coordinate your normal business but also this new business with the acquisition of the Commodore Amiga. However, there are many things Amiga users in North America would like to know.

Escom: As I'm sure you know the auction is done and I'm sure you know the history of that. So I assume that you would like to hear what we are doing now and what we plan to do.

I will give you as much information as I can and I apologize that I am short on time as we are very busy here preparing for the market. We are trying to do a lot of things and everybody has been contacting us. I do not yet have the staff to take care of the Amiga things as they are mainly busy on production and retailing of PCs. So first I would like to explain something about Escom.

"The company (ESCOM) has an expected turnover for 1995 of about 2.7 billion Deutschemarks or 1.8 billion US dollars."

Escom is a company which is listed on the Frankfurt Stock Exchange. I founded the company about 1985-86. The company has an expected turnover for 1995 of about 2.7 billion Deutschemarks or 1.8 billion US dollars. Escom employs about 2,500 employees in the European marketplace. We are located in about 11 European countries with their own organizations but our headquarters of the AG or corporation are in Bochum, Germany.

Here in Frankfurt we have our logistics center, our marketing operation and typically our business operations. Here we have all the people working now on the Commodore project and also new things.

In the Escom operation itself we have some people from the former Commodore operation. I have a former Commodore General Manager who is now my General Manager in the Escom Holland operation. He has several sales people from Finland and Norway which are also former Commodore people. In Switzerland my subsidiary has a gentleman who was the General Manager of the Swiss operation of Commodore and he is now responsible for Italy, Switzerland and France area. In Germany one of my board members is the former General Manager of the Commodore Germany operation. So we have quite a few key people who understand the Commodore Distribution in the European marketplace. Right now the most important thing is to get the whole thing running so I need more logistics and sales people.

Escom is a holding (company), under the holding we have a few different operations. One is our retail operation. We have to date between 400 and 500 stores in Europe. We are perhaps the biggest PC retailer in Europe selling roughly 650,00 PCs per year in our stores under the Escom brand name. We also have 5 manufacturing places in the European marketplace, 2 in Germany, one each in France, Netherlands and Czechoslovakia with a combine capacity to manufacture 1.2 million PCs per year. We have our own case manufacturing so we can make all of our own cases for the machines. Our third operation focuses on CP distribution that has to do with online services or mail orders. Then we have Escom Business which is a sister company which does network installation for on-site service of corporate accounts Germanwide with their own technicians. Then we also have a trading company which distributes components, CPUs, hard disks and other products. We also have purchasing operations in the Far East, and we have a 10% share in IPC Peripherals in Fremont which is looking for CD titles and everything that is new in the American marketplace. In the European marketplace we are the biggest Pentium reseller, last year we had roughly 50% of the Pentium market in Europe.

Now in the future of Commodore and the Amiga, the technology has a very big potential, and Commodore and Amiga are big potential trademarks. From my point of view, Commodore is only a trademark. Commodore is a trademark which does not own (intellectual property) because they did not own an operating system or technology. They only had a

(continued on page 46)

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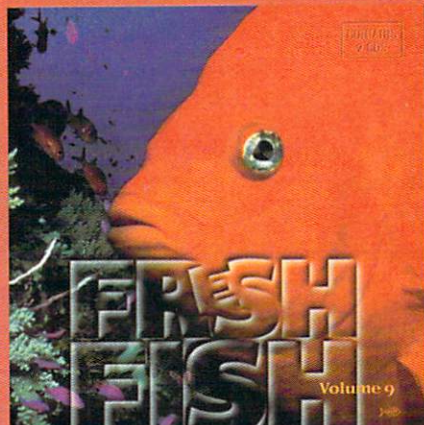


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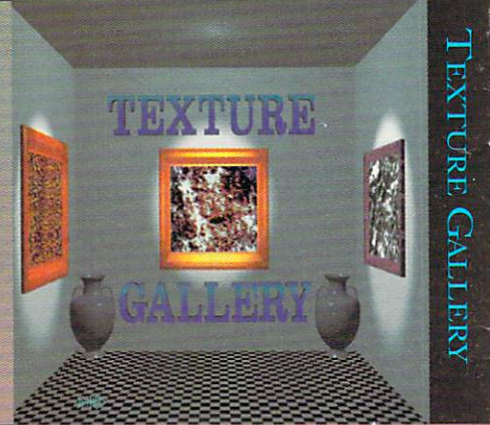
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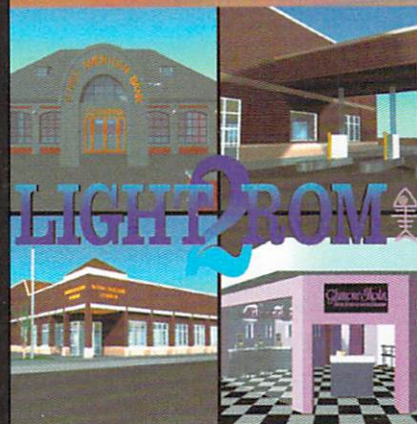


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